THE REGISTRAR GENERAL'S STATISTICAL REVIEW OF ENGLAND & WALES

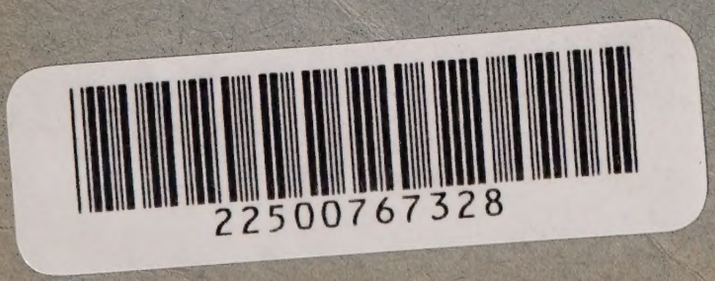
FOR THE SIX YEARS 1940–1945

TEXT, VOL. I, MEDICAL

LONDON: HIS MAJESTY'S STATIONERY OFFICE

1949

PRICE 6s. 6d. NET


225007673328

THE REGISTRAR GENERAL'S STATISTICAL REVIEW OF ENGLAND & WALES

FOR THE SIX YEARS 1940–1945

TEXT, VOL. I, MEDICAL

LONDON: HIS MAJESTY'S STATIONERY OFFICE

1949

The Registrar General's Statistical Review of England and Wales consists, in normal years, of three parts ; Parts I and II contain respectively the Medical and Civil Tables ; the third part (the Text volume) is primarily a commentary on the vital statistics revealed in the Tables but also contains additional data. In view of the delay in preparation and printing caused by the war, a single Text volume was issued covering the two years 1938 and 1939. This departure from the norm has been carried even further in the present volume which covers the six years 1940 to 1945 and is confined to medical statistics. Such an arrangement, though involving some delay, has provided a unique conspectus of an unusual period, all the years of which were affected directly by the war. A corresponding commentary on the data contained in the Parts II (Civil Tables) for these years will be published separately.

Arrears of publication of the Statistical Review are now being fast overtaken and before this volume appears the last of the Medical Tables volumes for the war period (viz., Part I of 1944) will have been published.

A new feature is an alphabetical index of diseases and causes of death which provides references not only to this volume but also to Parts I (Medical) of the Statistical Review for the years 1940–1945.

WELLCOME INSTITUTE LIBRARY
Coll. welMOmec
Call No. Ser WA

TABLE OF CONTENTS

Page

INTRODUCTORY 1

DEATHS 2

Number

Deaths registered in each year 1940 to 1945, Table I 3
Treatment of non-civilians in war years 3
Assignment of evacuated civilians to administrative areas 3

Death Rates

Crude 3
" Total " and Crude death-rates, 1941 to 1945, Table II 4
Civilian 4
Specific 5

Standardized Mortality Comparisons

Standardized death-rates 6
Comparative Mortality Index 6
Adjusted ratios of male to female mortality 8
Mortality ratio 8
Calculation of C.M.I. for all causes (males and females) and standardized sex ratio, in 1941, using formula (2) 9
Calculation of C.M.I. for lobar pneumonia (persons) in 1941, using formula (1) 10
Calculation of C.M.I. for respiratory tuberculosis (males and females) in 1939, using formula (3) 11

Other Indices of Mortality

Life-table death-rate 12
Equivalent average death-rate 12

Trend of Various Indices since 1901

Population by ages per 10,000 at all ages, 1901, 1911, 1921, 1939, 1941 and 1945, Table III 13
Crude death-rates and standardized mortality comparisons for each sex, 1901 to 1945, Table IV 14

Mortality at different portions of the year

Quarterly death-rates by sex and age 15
Quarterly death-rates in each quinquennium 1851–1945 and in each year 1931 to 1945 with ratio to yearly rate taken as 100, Table V 16
Numbers of deaths of civilians registered as due to operations of war and all other causes during each quarter of 1940 to 1945, Table VI 17
Quarterly death-rates from operations of war and all other causes, 1939 to 1945, Table VII 19
Numbers of deaths by sex and from certain causes occurring in each quarter of 1939, 1940, 1941 and 1943, Table VIII 20

Mortality of each sex

Ratio of male to female death-rates by age, 1931–1945 21
Mortality of males per cent. of that of females at various ages, 1841–45 onwards, Table IX 22

Statistical Significance of Death-rates 23

Comparative Mortality in Regions and different classes of area

Mortality from non-violent causes in regions as per cent. of that in England and Wales, 1940–1941 25

Page

Infant Mortality

Differences in birth registrations and occurrences 27
Related Births 28
Deaths at ages under 1 year and live births by sex, legitimacy and quarter of the year, 1939 to 1945, Table X 29
Average rates by quarters and average annual rates from diarrhoea and other causes, in quinquennial periods, 1861–1945 and in each year, 1931 to 1945, Table XI 30
Age distribution, 1881 to 1945, Table XII 31
Stillbirths and neo-natal deaths and rates, 1928 to 1945, Table XIII .. 33
Distribution by sex, regions and different classes of area 1940 to 1945, Table XIV 34
London, C.B. and urban aggregates compared with rural aggregates, 1911–1914, 1931 to 1945 and each year 1936 to 1945, Table XV 36
Rates at various stages of infancy in different classes of area 1926–1945, Table XVI 37
Ratio of rates at various stages of infancy in different classes of area, 1926–1945, Table XVII 37
Age distribution by sex and legitimacy and in regions and different classes of area, Table XVIII 38
By age and legitimacy ; by cause ; neo-natal mortality by cause, 1936–1945, Table XIX 47
By sex from certain causes at various ages, 1945, Table XX.. 48
By cause, sex and legitimacy, 1940–1945, Table XXI 50
Comparison of the principal causes in regions, 1936–1945, Table XXII. .. 52

Mortality at Ages over One Year

From all causes 1921–1930 and each year 1938 to 1945, Table XXIII .. 53
From all causes except operations of war, 1931–35, 1936–39, 1941–45 and each year 1940 to 1945, Table XXIV 55
At various ages from all causes except operations of war in 1940 to 1945 per cent. of that for the same sex and age in 1936–1939, Table XXV .. 57

Young Children (1–5)

From all causes, including and excluding operations of war, at ages 1–4, 1911–14, 1921–30, 1931–35, 1936–39, 1941–45 and each year 1940 to 1945, Table XXVI 59
Distribution at ages 1–2 and 2–5 in regions and different classes of area, 1931–35 and each year 1940 to 1945, Table XXVII 60
Rates per million from various infective diseases at ages 1–5 in 1911–20 and each year 1921 to 45, Table XXVIII 62
Rates per million from various causes at ages 1–5 in 1936–39, each year 1940 to 1945 and 1943–45, Table XXIX 63

Children of School Age (5–15)

Rates per million from various causes at ages 5–10 and 10–15 in 1936–39, each year 1940 to 1945 and 1943–45, Table XXX.. 64
Rates per 100,000 at ages 5–15 in regions and different classes of area each year 1940 to 1945, Table XXXI 66

Young Adults (15–25)

From 9 principal causes, males aged 20–25, 1939 distinguishing non-civilians in 1942 and 1945 67

Adults (25–70)

From all causes except operations of war by sex and age groups, 1931–35, 1936–39, each year 1940 to 1945 and 1943–45, Table XXXII. 67
Rates at ages 50–55 and 55–65 from various causes in 1931–33, 1936–38, 1940–42 and 1943–45, Table XXXIII 72
Rates at ages 65–70 and 70 and over from various causes in 1931–33, 1936–38, 1940–42 and 1943–45, Table XXXIV 73

Persons over 70

From the main groups of causes by sex, 1943–45 75

Centenarians

Age at death by sex, regional aggregates, 1940 to 1945, Table XXXV .. 76

Page

CAUSES OF DEATH

Details shown in various tabulations 77
Revision of the International List and new method of selection in classification of two or more jointly stated causes introduced in 1940 .. 78
Multiple causes of death entered on certificates 80

Defects in certification

By medical practitioners 81
By coroners 83

Notifiable Infectious Diseases

Correction for amendments of diagnosis 85
Comparability factors for years prior to 1944 85

VITAL STATISTICS OF CERTAIN DISEASES AND OTHER CAUSES OF DEATH

(For details *see* Index page 293).

1, 2. Typhoid and Paratyphoid Fevers 87
6. Cerebro-spinal (Meningococcal) Meningitis 89
8. Scarlet Fever 93
9. Whooping Cough 95
10. Diphtheria 97
11. Erysipelas 106
13–22. Tuberculosis 107
27. Dysentery 121
30. Syphilis 122
32a. Spirochætosis ictero-hæmorrhagica (Weil's disease) 124
33. Influenza 124
35. Measles 127
36. Acute Poliomyelitis and Polioencephalitis 130
37. Acute Infectious Encephalitis (lethargic or epidemic) 132
44b. Hodgkin's Disease (Pernicious Lymphogranulomatosis) 132
45–55. Cancer and other Malignant Tumours 134
All sites 134
Cancer by Site 142
56, 57. Tumours not returned as malignant 182
58. Rheumatic Fever 182
59a, b. Rheumatoid Arthritis and Other Chronic Articular Rheumatism .. 186
61. Diabetes Mellitus 187
63b. Exophthalmic Goitre 191
63c. Myxœdema and Cretinism 193
65a. Addison's Disease not specified as Tuberculosis 194
66b (2). Idiopathic Steatorrhœa 194
70. Rickets 194
73a. Pernicious Anæmia 194
73 b, c, d. Other Anæmias 196
74. Leukæmia and Aleukæmia 196
77. Alcoholism, and 124, Cirrhosis of the Liver 197
83. Intracranial Lesions of Vascular Origin 200
85, 86, 87e (1). Epilepsy and " Convulsions " 204
87c. Paralysis Agitans 205
89. Diseases of the Ear and Mastoid Antrum 205
90b, 91, 93a. Acute Heart Disease not specified as rheumatic 207
93c, d, 94, 162a, c. Degenerative Heart Disease and Senility 207
95a, c. Other Heart Disease not specified as rheumatic 215
97. Arteriosclerosis (excluding Coronary or Renal Sclerosis and Cerebral Hæmorrhage) 215
106. Bronchitis 215
107–109. Pneumonia 217
110. Pleurisy 221
112. Asthma 221
114a. Silicosis and other Occupational Pneumoconiosis 221
115. Diseases of the Mouth and Throat 222
117, 118 (1). Ulcer of the Stomach and Duodenum and Gastritis 222
119, 120. Enteritis and Diarrhœa 225
121. Appendicitis 227
125–127. Other Diseases of the Liver, Gall Bladder and Bile Ducts 227
130–132. Nephritis 228

Page

133–134. Other Diseases of the Kidneys and Urinary Calculi 229
137. Diseases of the Prostate 231
140–150. Maternal Mortality 231
163–164. Suicide 243
169. Deaths caused by Railway Accidents 246
170, 171. Deaths caused by Motor and other Road Vehicles 246
173. Deaths caused by Air Transport 258
Fatal Accidents in Houses 258
183. Accidental Drowning 263
195a. Vaccinia and other Sequelæ of Vaccination against Smallpox 264
195b. Other Accidents due to Medical or Surgical Intervention 266
199, 200. Ill-defined Causes of Death 267
Anæsthetics 271

APPENDIX

A.—Proportion of the Population of Children under 15 years of age at the end of 1945 who had been Immunised against Diphtheria, in different parts of England and Wales 279

B.—List of Government, Inter-Departmental and other Committees on which the Registrar General was represented during the six years 1940 to 1945 293

INDEX OF DISEASES AND CAUSES OF DEATH 294

STATISTICAL REVIEW, 1940–1945

Note.—Of the tables referred to in this Review, those numbered in Arabic numerals will be found in " Tables, Part I—Medical ", and those lettered will be found in " Tables, Part II—Civil ", for the year in question, whilst those numbered in Roman numerals appear in this Review, except where otherwise stated. For constitution of the regions of the country *see* the note on page 33. For revised estimates of population in years 1931–39, *see* Part I for 1942, page 319. For reference to revision of comparative mortality indices for separate causes in 1940–45, *see* page 11 of this Review.

INTRODUCTORY

In 1940, the first year to which this commentary relates, the changes in classification recommended at the Fifth Decennial Conference for the Revision of the International List of Causes of Death were introduced. Work on another recommendation made at this Conference, held in Paris in 1938, that a similar list should be compiled for the purpose of morbidity statistics was begun at the end of the period covered by this volume. In December, 1945, experts from Canada, the United Kingdom, and the United States began in Washington the drafting of a list which could be used for both mortality and morbidity statistics. This task, which involved several years work on both sides of the Atlantic, was completed in June, 1948, when the first World Health Assembly approved a new International Statistical Classification of Diseases, Injuries and Causes of Death.

The year 1940 was important in the history of vital statistics in England and Wales for another reason. In that year the old method, by which certain arbitrary rules governed the selection of the primary cause of death when more than one cause was mentioned on the medical certificate, was superseded by selection based on the opinion of the doctor who issued the certificate. It had been decided that this method of selecting from " joint causes " would be an improvement ; and this change in practice has since been given world-wide approval by its embodiment in international regulations (Nomenclature Regulations, 1948) adopted by the World Health Organisation. The change does, of course, throw a greater responsibility on the doctor and because of this and the greater detail demanded by each revision of the International List, it is necessary to ask doctors to supply rather more precise information in cases where the terms used on the medical certificate leave the coder in doubt. The co-operation of the medical profession in these efforts to improve the national statistics has been admirable and merits record. With a view to helping certifying medical practitioners and coroners to understand the difficulties which confront the coder, a special note on the subject of defects in certification has been included in this text. It is hoped that the suggestions made will also benefit those upon whom reliance must be placed for accurate data in the longer-term future, the students in medical schools. In order to preserve statistical continuity in the time series, conversion ratios have been calculated which allow for this change in method of selection as well as the changes in classification introduced by the Fifth Revision of the International List.

(86504) A 4

Particular attention is given in this text to the various methods of standardizing death-rates. Mortality comparisons based on a standard population should be free from the influence of changes in age and sex distribution, but recently they have not accurately reflected those changes. The population of 1901, which until 1940 was used as the base for standardized rates, had become unsatisfactory owing to the great changes since 1901 in the proportionate age-distribution of the population. It was for this reason that a new measure, known as the Comparative Mortality Index (C.M.I.) was introduced in 1941. The nature of this index, designed to adjust the standard of comparison in a way which takes account of current changes in the sex and age structure of the population, is fully discussed.

Two important developments in 1944 led to an improvement in statistics of notifiable infectious disease. From that year Medical Officers of Health have provided the General Register Office with quarterly statements showing the sex and age groups of notified cases. This has made it possible to analyse prevalence and fatality by sex and age. The other significant advance, also made possible by the co-operation of Medical Officers of Health, has been the correction of notifications to allow for revisions of diagnoses after admission to hospital; prevalence rates can therefore be regarded as more reliable.

Infant mortality rates are now based on related live births to allow for the changing infant population at risk and the text shows why this has become necessary. Neonatal mortality has been analysed in greater detail and in closer relation with stillbirths. The great improvement in maternal mortality is discussed. The data derived from the Population (Statistics) Act, 1938, have made measurement possible of the risks of dying in pregnancy or as a result of childbirth at successive ages. The effects of the processes of selecting men for the armed forces upon death-rates of the civilian population are estimated. The text includes special studies of the prevalence and fatality of cerebro-spinal fever and diphtheria. Particular reference has been made to the diphtheria immunisation campaign, the progress of which in different parts of the country is dealt with in an appendix. The mortality trends of tuberculosis are discussed and an extended analysis given for regions and some large towns. Death-rates from influenza and pneumonia have been analysed by quarters of the year and comparisons made with deviations from average air temperatures. Measles and whooping cough became notifiable diseases in 1940 and their prevalence and fatality rates at various ages have been calculated.

Cancer deaths are analysed more fully than in previous reports, death-rates from cancer of each site being given at separate age-groups in successive periods of time. The curious behaviour of death-rates from diabetes and exophthalmic goitre are each considered and regional comparisons made. An extended analysis is made of deaths from degenerative diseases of the heart and circulation, and possible explanations of the wartime changes in rates of death from those conditions are discussed. Accidents in the home, motor traffic fatalities and suicides are analysed, and deaths of civilians by enemy action during successive months are also given.

DEATHS.

In the six years 1940–45 the deaths of 3,078,550 persons were registered in England and Wales, 1,604,446 being of males and 1,474,104 of females. The annual totals, with distinction of those registered as civilians and non-civilians, are shown in Table I. No such distinction was possible for females prior to 1st June, 1941.

Table I.—Deaths Registered in England and Wales, with distinction of Non-Civilians, in each year 1940 to 1945.

Year	Civilians			Non-Civilians			Totals			Per cent of year preceding
	M	F	P	M	F	P	M	F	P	
1940 ...	294,196	278,448	572,644	8,893	—	8,893	303,089	278,448	581,537	116
1941 ...	270,344	254,090	524,434	10,691	55	10,746	281,035	254,145	535,180	92
1942 ...	242,089	228,568	470,657	9,244	236	9,480	251,333	228,804	480,137	90
1943 ...	249,620	241,911	491,531	9,586	295	9,881	259,206	242,206	501,412	104
1944 ...	246,894	234,156	481,050	10,811	315	11,126	257,705	234,471	492,176	98
1945 ...	245,436	235,838	481,274	6,642	192	6,834	252,078	236,030	488,108	99

Deaths of non-civilian males registered in each year, and of non-civilian females registered in each year 1941 to 1945, are excluded from all tables in Part I, except Tables 3 and 4 (Total deaths registered) and Tables 20 and 21A, but full details of them by sex, age and cause are given in the two last mentioned tables.

The assignment of deaths of civilians to place of residence was complicated by the fact that many were temporarily resident in areas away from their homes. All civilian deaths were assigned to the temporary home address when two home addresses were given; but in the case of non-institution deaths occurring in an area which was not an "evacuation area" in the official sense and for which the only home address stated was in an evacuation area, the assignment was made to the area where the death occurred. The reason for these changes from the usual practice regarding deaths of persons away from home was that changes of address for more than a few weeks duration were recorded in the National Register and taken account of in the calculation of the local populations at risk, which was not the case before 30th September, 1939.

Death-rates.—The death-rates used in this Review are of several kinds, and are complicated by considerable movements of population between reception and evacuation areas, by the continued calling-up of males into the armed forces, by the calling-up of young women for the auxiliary services, which began in 1941, and by demobilisation commencing during the latter part of 1945.

Crude death-rates represent the total numbers of deaths from all causes registered during the year as belonging to the area in question after correction for transfers to the place of residence of the deceased, per 1,000 or million of the corresponding estimated population at the middle of the year. The use of the mid-year population in the calculation involves the assumption that the population resident in the area was either stationary or changing at a uniform rate throughout the year, an assumption not justifiable during 1940–45 for either the civilian or non-civilian parts of the population. Furthermore, no estimates could be made of the non-civilian populations at risk to die during the year within separate regions and areas. Consequently, crude total death-rates of local areas cannot be calculated for these years, and the civilian death-rates which replace them have been based upon more exact measures of the average populations at risk than are given by the mid-year estimates.

For England and Wales as a whole changes in the total population could not be published for security and other reasons, so in the Quarterly Returns for 1940–44, crude total death-rates based on the mid-year population of 1939 were used. In subsequent issues populations inclusive of non-civilians and merchant seamen for each year were substituted as basis for crude birth-rates and total death-rates. The aggregates of deaths forming the numerators

of each of these series of indices did not include any deaths occurring and registered outside England and Wales of persons included in the denominators, whether these resulted from war, disease or other causes. On the other hand they included deaths of wounded and sick persons who were brought home and then died, and also deaths by enemy action caused within England and Wales, whether of civilians or non-civilians. The two series of rates are shown in Table II, but it must be emphasised that they are only " total " in the sense defined above.

Table II.—" Total " and Crude Death-rates, England and Wales, 1940 to 1945.

Year	" Total" death-rates per 1,000		Civilian death-rates per 1,000 mean civilian population
	Mid–1939 population	Total population for year in question	
1940	14·0	13·9	14·36
1941	12·9	12·8	13·54
1942	11·6	11·5	12·31
1943	12·1	11·9	13·00
1944	11·9	11·6	12·73
1945	11·8	11·4	12·61

Civilian death-rates, which for 1940–45 take the place of crude rates throughout, represent the number of deaths registered during the year as belonging to the area in question, with deduction of those of non-civilian males in each year and of those of non-civilian females registered from 1st June, 1941, onwards and corrected for transfers to place of residence as explained above, per 1,000 or million of the corresponding estimated population at risk as given in Table 17. The populations used for these rates were calculated by starting from the National Register of civilians at 29th September, 1939, adding and deducting removals up to the end of each quarter thereafter, adding births and deducting deaths in each quarter, deducting or adding transfers to or from the armed forces and women's services, and adjusting for migration into and out of the country as a whole. Having thus estimated the civilian population of an area at the end of each quarter, the annual population at risk for the purposes of death-rates is given by $\frac{1}{4}$ (sum of populations at 31st March, 30th June and 30th September, plus half sum of populations at 31st December in preceding and current years). For London County the estimated populations at the ends of successive quarters from 31st December, 1939 to 31st December, 1940 were, in thousands, 3,143·0, 3,217·0, 3,213·7, 3,078·6, 2,511·0, and the annual population in 1940 for purposes of death-rates was $\frac{1}{4}$ (1,571·5 + 3,217·0 + 3,213·7 + 3,078·6 + 1,255·5) = 3,084·1. The populations thus calculated are shown for England and Wales in Table 1, for regions and density aggregates in Table 2 (for years 1940 and 1941 only—*see* page 24) and for counties and individual areas in Table 17.

The death-rates designated as " crude " throughout the statistical tables are civilian rates as defined above and may be regarded as comparable with the crude rates of previous years except in so far as they were influenced by (*a*) changes in the composition of the population at risk brought about by the increasing proportion of older people and withdrawal of the younger sections of adults into the services, and (*b*) selection on health grounds resulting from physical examination at recruitment on the one hand and discharge from the

services on the other. The effects of the changes in sex and age proportions are corrected by standardization (*see* below), but the effects upon death-rates of physical selection remain, and become apparent when the civilian rates at the affected age-groups are compared with those of past years. The maximal combined effects of age selection and physical selection in recruitment upon the death-rates at all ages can be estimated as follows. The population used for civilian death-rate calculation was less than the estimated population, including the non-civilians, by approximately one-fourteenth part in 1941 and one-ninth part in 1944 (Table 1). If this section of the population was so selected as to have a normal mortality of zero, the effect of its withdrawal would be to raise the death-rate of the residual population by about one part in 14 in 1941 and one part in 9 in 1944, that is to say by about 0·9 per 1,000 living in 1941 and by 1·3 in 1944. If its normal mortality was 3 per 1,000, corresponding with that of males aged 20–35 in the immediate pre-war period, the effect would be to raise the residual death-rate by about 0·7 in 1941 and 0·95 in 1944. The effect of initial physical selection alone upon the residual civilian death-rates at all ages cannot, therefore, have exceeded 1·0 in any year, although it was much more important for the specific age-groups in which the recruitment was concentrated. The effect on the crude rate of subsequent discharge from the services of those who had become disabled, or unfit because of development of tuberculosis and other diseases of a chronic nature, cannot be estimated separately, but the combined effects of selection at entry and by discharge are estimated at certain ages on pages 54–56.

Table II shows the crude civilian death-rates of England and Wales in each year 1940 to 1945.

Specific death-rates relate either to mortality assigned to selected causes by the methods outlined on pages 77 and 78, or else to mortality amongst groups of persons of selected sex, age or civil condition. Specific rates of the latter type are, with certain exceptions, usually obtained by dividing the number of deaths registered in the year as being those of persons in the selected group by the estimated number of such persons alive at the mid-year. In 1940–45, however, the appropriate section of the mean population as given in Tables 1, 2 or 17, has been used in place of a mid-year estimate, the reason for this being that populations were not changing in a uniform manner on account of transfer of civilians into the services and large movements of civilians from place to place occasioned by war conditions.

Exceptions to the use of estimated populations as denominators are the various rates of infant mortality, which are based upon the appropriate numbers of live births, and certain death-rates connected with child-bearing which are based upon the appropriate numbers of live and still births. In the calculation of these rates for separate areas in 1940–45, births occurring away from home were transferred to the place of permanent or temporary residence of the mother in accordance with the rule defined above for deaths, since otherwise the denominators of the rates would not correctly represent the numbers of infants and mothers at risk. In 1940, the numbers of births used for these local rates differed to an appreciable extent in some areas from the numbers used for birth-rate calculation and given in column 7 of Table 17, since the allocation of the latter took no account of temporary change of residence. As an example, the number of live births assigned to Northampton County Borough for birth-rate purposes in 1940 was 1,229 (Table 17), but the number used for infant mortality calculation was 1,408, the difference arising from the fact that it was a reception area. By 1941, the allocation of births to place of permanent residence for birth-rate purposes had lost most of its validity and for simplicity the same rule for assignment to residence was used for birth-rates as for infant mortality; consequently, the numbers of births shown in

Table 17 for that and subsequent years require no correction on this account. As will be explained later, however, the infant mortality rates, both national and local, have been corrected for other disturbing factors.

Standardized Mortality Comparisons.

Standardized death-rates are attempts to express the mortality in a population of changing sex or age distribution by a single figure calculated in such a way that the changes or abnormalities in constitution do not influence it appreciably. The standardized rates shown for England and Wales in Tables 3, 5, 8 and 9 of the 1940 Review are the rates which would result if each age-group of the census population of 1901 was subject to the death-rate experienced in that group during the year to which the rate applies. The specific rates used for this calculation in the year 1940 were those shown in Table 5; that is to say, for males they related to civilians throughout. This use of death-rates experienced by the residual population left after recruitment introduces some effects of physical selection at the young adult age-groups but the movement in and out of the country of men in the services during these years was such as to make any alternative basis of calculation of doubtful value. The 1901-based standardized death-rate from all causes, thus defined, was 9·90 per 1,000 persons in 1940 and 9·32 in 1941, compared with 9·24 in 1937, 8·52 in 1938 and 8·49 in 1939.

The population of 1901 is no longer a good standard owing to the great change in proportionate age distribution since that date, but the substitution of another fixed standard more closely resembling the present population would have few advantages. Unless all the rates of past years were re-calculated on the new standard the continuity of the record would be broken; and if they were so re-calculated the new standard would be less appropriate for years around and before 1901 than the old standard. Furthermore, the new standard population would become inappropriate again after the lapse of one or two decades. If 1901 population is replaced by that of 1939 as standard, the standardized rates for all causes combined for those years are changed from 16·9 and 8·5 respectively to 19·6 and 12·1; and the relative decline during the interval is modified from 50 to 38 per cent. The first measure of the fall in mortality may be thought to be an overstatement, but the second understates the fall to the same extent. For these reasons the 1901 standard population continued in use up to 1940.

An index figure loses much of its usefulness, however, if it fails to convey anything to the mind until it has been compared with another index figure which cannot be remembered, and the statement that the standardized death-rate in 1939 was 8·5 per 1,000 living may give a misleading impression of the rate of dying in that year. A point has been reached also when even the direction of movement of a standardized death-rate in comparison with the year preceding may differ from that shown by rates based on the current population as standard. Thus the S.D.R. for males in 1939 was 0·6 per cent. below that of 1938 but, as will be shown below, when based upon a more appropriate standard male mortality was 1·6 per cent. above that of 1938.

A new method of overcoming these difficulties by means of a moving standard which never becomes inappropriate was devised and brought into use in Tables 3 and 5 of the Review for 1941. The basis and method of calculation of this new measure is described below.

Comparative Mortality Index.—The best standardized ratio between the mortalities in two years would be the ratio between the standardized death-rates each based upon the mean of the proportionate age-distributions of the populations living in the two years.

If p and d represent the population in thousands and the deaths at a given age, and P, D the population in thousands and deaths at all ages combined

in a particular year, the ratio of mortality in that year to mortality in another year, adjusted to eliminate the effects of differences in the age-distributions of the two populations, is expressed by the following formula, where Σ represents summation over all the age-groups :—

$$\frac{\Sigma \frac{d}{p}\left(\frac{p'}{P'}+\frac{p}{P}\right)}{\Sigma \frac{d'}{p'}\left(\frac{p'}{P'}+\frac{p}{P}\right)} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

The ratios d/p and d′/p′ represent death-rates per thousand in a given age-group in the two years ; whilst p/P and p′/P′ are the fractions r and r′ of the populations of all ages who fell within that age-group in the two years.

If the death-rates per 1,000 for each age-group have been calculated in each year, and are denoted by m and m′, the ratio may be expressed in the alternative form :—

$$\frac{\Sigma m\ (r+r')}{\Sigma m'\ (r+r')} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Another way of expressing the formula, which may be useful when the death-rates for separate age-groups have not been calculated (as for example when dealing with specific causes of death) and when the two years are not widely separated, is arrived at as follows : —

$$\frac{\Sigma \frac{d}{p}\left(\frac{p}{P}+\frac{p'}{P'}\right)}{\Sigma \frac{d'}{p'}\left(\frac{p'}{P'}+\frac{p}{P}\right)} = \frac{\Sigma\left(d\frac{P'}{P}+d\frac{p'}{p}\right)}{\Sigma\left(d'+d'\frac{P'}{P}\cdot\frac{p}{p'}\right)}$$

$$= \frac{\left(\frac{P'}{P}+1\right)D+\Sigma d\left(\frac{p'}{p}-1\right)}{\left(\frac{P'}{P}+1\right)D'+\frac{P'}{P}\Sigma d'\left(\frac{p}{p'}-1\right)} \quad \ldots\ldots\ldots (3)$$

The advantage of this is that the multiplying factors $\left(\frac{p'}{p}-1\right)$ and $\left(\frac{p}{p'}-1\right)$ are mostly small, and once calculated they can be applied to a series of specific causes of death. For each cause it is then only necessary to set out the numbers of deaths at successive age-groups, and at all ages in each year, multiply them by the series of small factors by means of a slide rule, sum the products for individual age-groups and apply the formula to the total line.

These ratios will for most purposes be calculated for each sex independently, the population factors applying to the sex in question. If a ratio is required for persons, fresh population factors will need to be calculated for persons and applied to the deaths of males and females added together for each age-group and at all ages.

The Comparative Mortality Index for a given year is simply the adjusted ratio for that year in terms of a base year which has been selected as standard. That is to say, mortality in the base year is taken as unity for males, unity for females and unity for persons, and comparative mortality indices for males, females and persons of 0·970, 0·950 and 0·960 respectively for a given year would indicate that mortality was three per cent. lower than in the base year for males, five per cent. lower for females and four per cent. lower for persons.

Any suitable year may be selected as base year, and normally a census year can be used with advantage. But since no census has been taken since 1931, whereas the national register enumeration of 1939 approximated to a

census and enabled populations at separate ages in years between 1931 and 1939 to be estimated with reasonable accuracy, the year 1938 has been selected as base year in the first instance. It was the last year undisturbed by war and presented no unusual features as regards relative mortalities at different ages such as were seen in 1939. Moreover, 1938 presented in general a more favourable mortality than in any year preceding and is rigorous as a base-line. The population of 1938 used in all calculations is the revised population given in Table XCIV of the Text Volume for 1938–39, and not the original estimate in Table 1 of the Review for 1938.

The C.M.I.'s shown in Table 3 of the Review for 1941 are based upon 1938, and replace the standardized death-rates founded on 1901 population which have been shown hitherto in that table. It is intended to continue to use 1938 as base year until another census has been taken, after which the base may be changed to the new census year. When that is done the new C.M.I.'s can be derived approximately from the old by multiplying throughout by the C.M.I. (based on 1938) for the new base year.

For the present, the following definition applies :—

$$\text{C.M.I.} = \Sigma m\,(r + r') \,/\, \Sigma m'\,(r + r')$$

where m is the death-rate for age-group x in the year to which the index relates, m' is the corresponding rate in 1938, $(r + r')$ is the sum of the ratio of the population at age-group x to that at all ages in the index year and that in 1938, and Σ represents summation over all age-groups.

The **adjusted ratios of male to female mortality,** also shown in Table 3 of the Reviews for years 1941 to 1945, are derived by one or other of formulæ (1), (2), (3), but interpreting m', d', D', p', P' as referring to females and m, d, D, p, P as referring to males, each in the year to which the ratio applies.

Having calculated the C.M.I.'s for successive years as in Table 3, a series of **mortality ratios,** expressing in adjusted form the mortality of each year or period of years in terms of the year or period immediately preceding it in the table, have been derived indirectly by dividing each C.M.I. by the preceding one, and these are given in Table 5. For 1938 and 1939, the M.R.'s are identical with the adjusted ratios calculated by the formulæ above, since the base year enters into the calculation directly. For other years correspondence is not necessarily exact, since the M.R. between successive years is obtained indirectly by relating each year to the base year, and when the age-distribution of the population was changing unevenly (as in the two war periods) a very slightly different ratio may result by relating one of the years directly with the next. The cumulative product of the M.R.'s, proceeding forwards from 1939, produces the successive C.M.I.'s ; and the cumulative product of the reciprocals of the M.R.'s proceeding backwards from 1938 likewise produces the successive C.M.I.'s. This is convenient, but would not be exactly true if the M.R.'s were calculated directly by applying the formula to the adjacent years. By definition, therefore, for year y :—

$$\text{M.R.} = \frac{\text{C.M.I. of year (y)}}{\text{C.M.I. of year (y} - 1)}$$

In Part I of the Reviews for 1941 and subsequent years these new indices for all causes are given in Tables 3 and 5. From 1942 onwards the C.M.I.'s for separate causes of death are given in Tables 8 and 9, replacing the standardized death-rates. When dealing with separate causes the effect of changes in classification must be considered, and if necessary corrected, if the year for which an index is being calculated lies outside the period 1931–39. If the year was before 1931 it is only necessary to make sure that the disease content of the international group under consideration did not undergo any important change in 1931, 1921 or other intervening dates of revision of the international list.

If the year was 1940 or later the summation derived from the deaths or rates in the base year 1938 must be corrected to the 1940 classification. This is done by multiplying the denominator of the formula (whichever is used) by the ratio of the 1938 deaths at all ages for the cause and sex under consideration according to 1940 classification (Table 6 of the Reviews for 1940–45) to the 1938 deaths at all ages as used in the summation (Table 6 or 21 of the Review for 1938).

Examples are given below of methods of calculating comparative mortality indices and sex ratios for the years 1941 or 1939 using that variant of the formula which appears to be most convenient for the particular index required.

(*a*) Calculation of C.M.I. for All Causes (males and females) and Adjusted sex ratio, in 1941, using formula (2)

Age group	Proportionate age distributions		Mean age distribution × 2	Death-rates per million		Deaths in 2 million of age distribution (r + r′)/2		Product for sex-ratio (= 2m × mean value of r for males and females)
	1938*	1941		1938	1941			
	p′/P′=r′	p/P=r	r+r′	m′	m	m′(r+r′)	m(r+r′)	
	MALES							
0– ...	·07244	·08411	·15655	17,075	18,244	2,673	2,856	2,716
5– ...	·15213	·16722	·31935	1,594	1,863	509	595	556
15– ...	·08801	·08382	·17183	2,009	2,938	345	505	467
20– ...	·07885	·03367	·11252	2,728	5,566	307	626	595
25– ...	·17110	·12305	·29415	2,826	4,643	831	1,366	1,319
35– ...	·14188	·16044	·30232	4,571	5,637	1,382	1,704	1,758
45– ...	·11887	·13716	·25603	10,221	11,026	2,617	2,823	2,960
55– ...	·09837	·11470	·21307	23,082	25,123	4,918	5,353	5,630
65– ...	·05854	·07128	·12982	53,737	55,209	6,976	7,167	7,844
75– ...	·01790	·02211	·04001	130,073	134,598	5,204	5,385	6,730
85 and over ...	·00191	·00244	·00435	263,624	258,762	1,147	1,126	1,703
All ages	1·00000	1·00000	2·00000			26,909	29,506	32,278
	FEMALES							
0– ...	·06444	·06475	·12919	13,371	14,547	1,727	1,879	2,165
5– ...	·13830	·13102	·26932	1,433	1,540	386	415	459
15– ...	·08080	·07515	·15595	1,712	2,277	267	355	362
20– ...	·07414	·07316	·14730	2,249	2,809	331	414	300
25– ...	·16424	·16100	·32524	2,485	2,852	808	928	810
35– ...	·14728	·15143	·29871	3,586	3,765	1,071	1,125	1,174
45– ...	·12882	·13126	·26008	6,974	7,256	1,814	1,887	1,948
55– ...	·10544	·10941	·21485	15,503	15,382	3,331	3,305	3,447
65– ...	·06680	·07079	·13759	38,794	39,484	5,338	5,433	5,609
75– ...	·02600	·02789	·05389	98,149	101,483	5,289	5,469	5,074
85 and over ...	·00374	·00414	·00788	228,876	241,708	1,804	1,905	1,590
All ages	1·00000	1·00000	2·00000			22,166	23,115	22,938

C.M.I. for males = 29,506/26,909 = 1·097.
C.M.I. for females = 23,115/22,166 = 1·043.
Adjusted sex-ratio = 32,278/22,938 = 1·407.

* Based on the revised population as shown in Table XCIV of the Review for 1938–39 and on page 319 of the Review for 1942, Part I (Medical).

In this example 11 age-groups have been used, but in the calculation of the indices for all causes in Tables 3 and 8 only nine groups have been employed, the subdivisions of ages 15–24, 75 and over being dispensed with in order to save labour. The indices so obtained—viz., C.M.I. (males) 1·096, C.M.I. (females) 1·043, sex-ratio 1·406—are not appreciably different from those above. For separate causes of death nine age-groups have generally been used, except for diseases for which deaths are concentrated in certain age periods, such as measles, whooping cough and some other children's diseases for which special subdivision of the early age-groups has been made, and respiratory tuberculosis for which the group 15–24 has been subdivided as in example (*c*).

(*b*) **Calculation of C.M.I. for Lobar pneumonia (persons) in 1941, using formula (1)**

Age group	Population in 1938* (thousands)	Population in 1941 (thousands)	Proportionate age distributions		Mean age distribution × 2
			1938	1941	
	p′	p	p′/P′ = r′	p/P = r	(r′ + r)
0–	2,814·2	2,842·0	·06828	·07336	·14164
5–	5,973·7	5,700·0	·14494	·14712	·29206
15–	6,621·8	5,215·0	·16066	·13461	·29527
25–	6,905·0	5,584·0	·16754	·14413	·31167
35–	5,963·2	6,022·0	·14469	·15543	·30012
45–	5,112·4	5,187·0	·12404	·13388	·25792
55–	4,205·7	4,330·0	·10204	·11176	·21380
65–	2,589·8	2,751·0	·06284	·07101	·13385
75 and over ...	1,029·2	1,112·0	·02497	·02870	·05367
All ages ...	41,215·0(P′)	38,743·0(P)	1·00000	1·00000	2·00000

	Deaths in 1938	Rate per million	Product with (r+r′)	Deaths in 1941	Rate per million	Product with (r+r′)
	d′	1,000 d′/p′	1,000(r+r′)d′/p′	d	1,000 d/p	1,000 (r+r′) d/p
0– ...	787	279·7	39·62	793	279·0	39·52
5– ...	250	41·9	12·24	127	22·3	6·51
15– ...	493	74·5	22·00	216	41·4	12·22
25– ...	742	107·5	33·50	298	53·4	16·64
35– ...	1,196	200·6	60·20	623	103·5	31·06
45– ...	1,657	324·1	83·59	992	191·2	49·31
55– ...	1,929	458·7	98·07	1,579	364·7	77·97
65– ...	1,627	628·2	84·08	1,508	548·2	73·38
75 and over	910	884·2	47·46	918	825·5	44·30
Total by classification of						
1931–39	9,591†		480·76			
1940–49	9,753‡		488·88	7,054		350·91

* Revised population as shown in Table XCIV, of the Review for 1938–39.
† See Table 6, Review for 1938.
‡ See Table 6, Reviews for 1940 onwards.

First correcting the total of the products for 1938 (which represents the deaths in two million persons having the mean age distribution) to the 1940 classification

for comparability with 1941, 480·76 is multiplied by 9753/9591, giving 488·88, and

$$\text{C.M.I.} = 350 \cdot 91/488 \cdot 88 = 0 \cdot 718.$$

This exact method of allowing for the change made in 1940 in the procedure for selecting the underlying cause of death has been employed throughout this volume. In Tables 8 and 9 of the Review for years 1942 to 1946 the conversion ratios were employed in calculating the C.M.I.'s for years 1940 onwards, and slight differences from the indices in this volume occur*. The full series of revised indices calculated by the more exact method shown above will appear in Tables 8 and 9 of the Review for 1947.

(*c*) **Calculation of C.M.I. for Respiratory tuberculosis (males and females) in 1939, using formula (3)**

Age group	Ratio of 1938 to 1939 population $\frac{p'}{p}$	Factor in numerator of formula $\frac{p'}{p}-1$	Deaths in 1939 d	Product $d\left(\frac{p'}{p}-1\right)$	Factor in denominator of formula $\frac{p}{p'}-1$	Deaths in 1938 d′	Product $d'\left(\frac{p}{p'}-1\right)$
	MALES						
0– ...	·9819	−·0181	83	− 1·5	+·0184	95	+ 1·7
5– ...	1·0186	+·0186	78	+ 1·5	−·0183	107	− 2·0
15– ...	·9923	−·0077	667	− 5·1	+·0078	620	+ 4·8
20– ...	1·1152	+·1152	1,041	+119·9	−·1033	1,154	−119·2
25– ...	1·0172	+·0172	2,510	+ 43·2	−·0169	2,551	− 43·1
35– ...	·9821	−·0179	2,542	− 45·5	+·0182	2,473	+ 45·0
45– ...	·9938	−·0062	2,815	− 17·5	+·0062	2,746	+ 17·0
55– ...	·9920	−·0080	2,411	− 19·3	+·0081	2,216	+ 17·9
65– ...	·9701	−·0299	865	− 25·9	+·0308	786	+ 24·2
75 and over	·9708	−·0292	112	− 3·3	+·0301	114	+ 3·4
All ages...	1·00531		13,124	+ 46·5		12,862	− 50·3
	FEMALES						
0– ...	·9834	−·0166	58	− 1·0	+·0169	64	+ 1·1
5– ...	1·0195	+·0195	163	+ 3·2	−·0191	170	− 3·2
15– ...	·9638	−·0362	1,092	− 39·5	+·0376	1,065	+ 40·0
20– ...	1·0551	+·0551	1,455	+ 80·2	−·0552	1,499	− 82·7
25– ...	·9972	−·0028	2,523	− 7·1	+·0028	2,600	+ 7·3
35– ...	·9859	−·0141	1,533	− 21·6	+·0143	1,498	+ 21·4
45– ...	·9898	−·0102	1,017	− 10·4	+·0103	975	+ 10·0
55– ...	·9834	−·0166	737	− 12·2	+·0169	737	+ 12·5
65– ...	·9689	−·0311	374	− 11·6	+·0321	357	+ 11·5
75 and over	·9705	−·0295	103	− 3·0	+·0304	103	+ 3·1
All ages...	·99371		9,055	− 23·0		9,068	+ 21·0

$$\text{C.M.I. (males)} = \frac{(2 \cdot 00531 \times 13124) + 46 \cdot 5}{(2 \cdot 00531 \times 12862) - (1 \cdot 00531 \times 50 \cdot 3)} = 1 \cdot 024$$

$$\text{C.M.I. (females)} = \frac{(1 \cdot 99371 \times 9055) - 23 \cdot 0}{(1 \cdot 99371 \times 9068) + (\cdot 99371 \times 21 \cdot 0)} = 0 \cdot 996$$

* The conversion ratios given in Appendix B.1 of the Review for 1940, Part I, are usually based on the deaths of the four years 1936–39. Thus, for tuberculosis (all forms, males) the ratio in year 1938 was 14,706/15,124 = 0·972, leading to a C.M.I. of 1·166 in 1945 (*see* Table LVI); but the conversion ratio based on 1936–39 was 0·971, leading to the figure 1·168 shown in Table 8 of the Review for 1945.

Other Indices of Mortality.—The **life-table death-rate** is another measure derived from the death-rates at separate ages which is not influenced by the age-distribution of the population in the year of measurement. The expectation of life at birth for males is the mean life-time which would be experienced by a batch of new born male infants if, as they attained each successive year of age, they were subjected to the death-rate of the current year at that age until all had died. If a constant number of male infants was born each year and subjected to these conditions, a stationary population would eventually be reached whose crude death-rate per unit would be the reciprocal of the expectation of life at birth. This life-table death-rate involves many assumptions and its real meaning is not easy to encompass. If the rates of dying at every single age are halved the stationary population eventually resulting must be older in constitution and consequently the life-table death-rate is reduced by much less than one-half. For males in 1938 the expectation of life at birth was 61·4 years, and the stationary population resulting would contain about 11 per cent. of men at ages 65 and over, with a death-rate at all ages of 16·3 per 1,000. If the rates of dying at every age in 1938 were reduced by one half, the expectation of life would rise to 74 years, the stationary population would contain about 18 per cent. at ages 65 and over, and the life-table death-rate would become 13·5, a reduction of only 17 per cent. An index which behaves in this way fails to express what is expected of a standardized mortality figure. Furthermore it cannot be used for separate causes of death, and its application to mortality experiences of regional or local populations is very hypothetical. The fallacies of using civilian death-rates and including violent deaths due to war have made the calculation of accurate expectations of life in years 1940–45 very difficult.

The **equivalent average death-rate**† is simply an arithmetic mean of the rates at quinquennial groups of ages up to some convenient limit such as 65, this being equivalent to calculating a standardized death-rate at ages under 65 based upon a population uniformly distributed over the 13 age-groups. If the rates at all the quinquennial groups are not available, twice the rate for the decennial group can be substituted without appreciable error. This measure has the effect at present of giving too great weight to mortality at ages 55–65, but the extent of that overweighting is diminishing year by year, whereas the underweighting of ages 45–65 by use of 1901 standard population becomes continually more pronounced. This is made clear by the comparison of populations in Table III. The equivalent average death-rates at ages under 65 for each sex give a simple measure of the mortality up to that age, easily calculated from the rates at separate age-groups, but the information given by these two figures needs to be supplemented by rates at 65–75 and 75 and over in order to complete the record of mortality, and consequently for most purposes the comparative mortality index is preferable.

Trend of Various Indices for England and Wales since 1901.—The effects of the fall in the birth-rate during the half century preceding 1933 and the concurrent decline in death-rates on the age constitution of the population from 1901 onwards are apparent in Table III. The 1941 and 1945 populations used in that table exclude non-civilians, and this has the effect of exaggerating both the fall in the proportions at ages between 15 and 35 and the rise in the figures at ages under 15 and over 45.

---

† G. W. Yule ; Journal of Royal Statistical Society, 1934, xcvii, Pt. I, 15.

Table III.—Population of Persons in England and Wales by Ages, per 10,000 at all ages, 1901, 1911, 1921, 1931, 1939, 1941 and 1945.

	1901 Standard	1911 Census	1921 Census	1931 Census	1939 Mid-year	1941 *	1945 *
0–	1,143	1,069	877	749	690	734	819
5–	2,099	1,995	1,895	1,635	1,415	1,471	1,474
15–	1,958	1,805	1,756	1,734	1,592	1,346	1,194
25–	1,616	1,651	1,520	1,605	1,671	1,441	1,221
35–	1,228	1,344	1,411	1,368	1,465	1,554	1,569
45–	892	978	1,167	1,235	1,244	1,339	1,405
55–	597	637	769	932	1,026	1,118	1,172
65–	331	377	434	536	643	710	793
75–	121	126	151	182	225	253	305
85 and over	15	18	20	24	29	34	48
All ages ...	10,000	10,000	10,000	10,000	10,000	10,000	10 000

* Populations used for death-rates, which exclude non-civilian males in both years and non-civilian females after 1st June, 1941.

In 1901 about 32½ per cent. of the population consisted of children under 15 years of age, but by 1931 the proportion had fallen to 23½ and by 1939 to 21 per cent. The proportion of persons aged 65 and over was 4·7 per cent. in 1901, 5·2 per cent. in 1911, 6·1 per cent. in 1921, 7·4 per cent. in 1931 and nearly 9 per cent. in 1939. In the civilian population of 1945 this proportion was 11½ per cent.

These changes were reflected in the divergent trends of the crude and corrected death-rates after 1911. From 16·9 per 1,000 persons living in 1901 the crude rate fell to 12·1 in 1921, but thereafter it showed no consistent change up to 1939, the rate in 1921–25 being 12·1, in 1926–30 12·1, in 1931–35 12·0 and in 1936–39 12·1. The standardized rate, however, which fell from 16·9 to 11·3 by 1921, continued to decline, averaging 10·3 per 1,000 in 1926–30, 9·6 in 1931–35 and 8·9 in 1936–39.

Table IV shows the trends for each sex between 1901 and 1945 of (*a*) the crude death-rate, (*b*) the standardized death-rate based on 1901 population, (*c*) the equivalent average death-rate at ages under 65, (*d*) the life-table death-rate, and (*e*) the comparative mortality index (1938). The crude rates declined by about 17 per cent. from 1911 to 1921 and then changed little up to 1939. The life-table death-rates declined by about six per cent. in each ten years throughout the period 1911 to 1939, resulting in a total improvement similar to that shown by the crude rates.

In the period from 1911 to 1938 death-rates at ages up to 65 fell on the average by about 40 per cent. for males and 46 per cent. for females, but the rate of improvement at advanced ages was not nearly so great. Consequently the C.M.I. at all ages together showed a fall of 33 per cent. for males and 36 per cent. for females. The standardized death-rates, based as they were on a standard population containing too small a proportion of old people, suggested that declines of 37 and 43 per cent. respectively had occurred, thus overstating the real improvement by about five per cent.

The C.M.I. alone of the different forms of corrected rate registered slight recessions for each sex in 1939 from the levels reached in 1938, this being due to the rise in mortality at ages over 45 coupled with falls at all the younger ages which occurred in 1939. The E.A.R. and the standardized rate gave insufficient weight to the unfavourable part of the change.

Between 1938 and 1945 the comparison, for males particularly, is prejudiced by the fact that the rates in the latter year are for civilians only, and are therefore influenced by those selective movements in and out of the services whose effects on mortality still remain after making allowance for the change in age-distribution. Because of this the equivalent average death-rate of males under 65 registered a smaller improvement (five per cent.) than that of females under 65 (15 per cent.). The C.M.I. showed an improvement of eight per cent. for males and 12 per cent. for females. The 1901-based standardized death-rate of females would have overstated the improvement to the extent of 1·5 per cent.

Table IV.—Crude Death-rates and Standardized Mortality comparisons for each sex, 1901 to 1945.

	Crude death-rate All ages		Life-table death-rate All ages		Equivalent average rate Under 65		Standardized death-rate All ages		Comparative Mortality Index (1938) All ages	
	M	F	M	F	M	F	M	F	M	F
	Rates per 1,000 living								1938 taken as unit	
1901 ...	18·1	15·8	—	—	16·2	13·2	18·5	15·5	1·764	1·862
1911 ...	15·6	13·7	19·4	18·1	13·6	11·0	15·6	13·0	1·496	1·568
1921 ...	12·9	11·3	18·0	16·8	10·5	8·5	12·5	10·2	1·202	1·266
1931 ...	13·0	11·6	17·0	15·9	9·3	7·2	11·3	9·0	1·127	1·183
1936 ...	12·9	11·4	—	—	8·7	6·4	10·4	8·1	1·061	1·087
1937 ...	13·2	11·7	16·5*	15·5*	8·8	6·5	10·5	8·2	1·073	1·100
1938 ...	12·5	10·8	16·3*	15·2*	8·2	5·9	9·8	7·4	1·000	1·000
1939 ...	13·0	11·3	16·2*	15·1*	8·1	5·8	9·7	7·4	1·016	1·028
1940 ...	16·1	12·9	—	—	10·0	6·7	11·5	8·5	1·187	1·156
1941 ...	15·7	11·8	—	—	9·5	6·2	10·9	7·9	1·096	1·043
1942 ...	14·4	10·7	16·2*	14·9*	8·2	5·4	9·5	6·8	·967	·916
1943 ...	15·3	11·3	16·3*	14·9*	8·4	5·5	9·7	7·0	·978	·944
1944 ...	15·3	10·8	16·1*	14·7*	8·2	5·2	9·4	6·6	·952	·894
1945 ...	15·0	10·8	16·0*	14·6*	7·8	5·0	9·0	6·4	·920	·875
	Per cent. of corresponding rate or index in 1911									
1901 ...	116	115	—	—	119	120	119	119	118	119
1911 ...	100	100	100	100	100	100	100	100	100	100
1921 ...	83	82	93	93	77	77	80	78	80	81
1931 ...	83	85	88	88	68	65	72	69	75	75
1936 ...	83	83	—	—	64	58	67	62	71	69
1937 ...	85	85	85	86	65	59	67	63	72	70
1938 ...	80	79	84	84	60	54	63	57	67	64
1939 ...	83	82	84	83	60	53	62	57	68	66
1940 ...	103	94	—	—	74	61	74	65	79	74
1941 ...	101	86	—	—	70	56	70	61	73	67
1942 ...	92	78	84	82	60	49	61	52	65	58
1943 ...	98	82	84	82	62	50	62	54	65	60
1944 ...	98	79	83	81	60	47	60	51	64	57
1945 ...	96	79	82	81	57	45	58	49	61	56

* Estimate from abridged life-table based on annual rates.

The equivalent average death-rate of females under 65 was halved during the 31 years from 1911 to 1942, and reached a still lower rate of 5 per 1,000 in 1945. This means that out of 1,000 females under 65 and evenly distributed as to age (15 or 16 of each year of age) only five may be expected to die within a year. In other words, the average chance of dying within a year for females of different ages 0 to 64 is 1 in 200.

The C.M.I. fell by one-quarter during the 20 years from 1911 to 1931, for each sex. The index for females again declined by one-quarter during the next 14 years from 1931 to 1945, indicating an acceleration in the rate of improvement.

Quarterly Death-rates by Sex and Age.

Table 4 gives the numbers of deaths registered in England and Wales, including those of non-civilians, in each quarter for decennial periods from 1841 to 1940 and for separate years from 1931 to 1945. The death-rates, however, are of civilians during 1940–45 (and the last quarter of 1939); and they are calculated by increasing the appropriate number of deaths in the quarter in the proportion of total days in the year to number of days in that quarter and dividing by the population as used for annual death-rates (Table 1).* In Table V such quarterly death-rates are shown for five-year periods from 1851 onwards and for each year from 1931, and the percentage ratio of each quarter's rate to the corresponding annual rate is also shown.

If it is desired to evaluate the true rate of change in mortality of a given quarter throughout a period of years, this can be done by correcting the ratio of the quarterly rate in year B to that in year A by the following factor :—

$$\frac{\text{Ratio of C.M.I. for year B to C.M.I. for year A.}}{\text{Ratio of crude annual death-rate in year B to that in year A.}}$$

For example, the ratio of the C.M.I. for year 1941 to that for 1938 was 1·070, and the ratio of the crude annual rate of 1941 to that of 1938 was 1·164, giving a correction factor $1{\cdot}070/1{\cdot}164 = 0{\cdot}919$. Consequently the true ratio of mortality in the March quarter of 1941 to that in the corresponding quarter of 1938 would be $0{\cdot}919 \times 18{\cdot}4/13{\cdot}6 = 1{\cdot}24$.

---

* *e.g.*, in 1940, which was a leap-year, the civilian deaths in the March quarter are multiplied by 366/91 and divided by 38,889. It should be noted that these rates in Table 4 in Parts I and Table V of this Review differ from those published in Table II of the Quarterly Returns for the December quarter of 1939 and subsequent quarters, which were based on the total deaths as given in Table 4 and estimated "total" populations.

Table V.—Quarterly Death-rates in each Quinquennium 1851–1945 and in each year 1931 to 1945, with ratio to yearly rate taken as 100.

	Death-rate per 1,000 living				Ratio to yearly rate taken as 100			
	March	June	September	December	March	June	September	December
1851–55 ...	25·3	22·5	21·0	21·9	111	99	93	96
1856–60 ...	24·1	21·6	19·6	21·9	111	99	90	100
1861–65 ...	25·7	22·0	20·4	22·3	114	97	90	99
1866–70 ...	24·7	21·6	21·5	22·0	110	96	96	98
1871–75 ...	24·3	21·1	20·4	22·1	110	96	93	100
1876–80 ...	23·2	20·7	18·8	20·6	112	100	90	99
1881–85 ...	21·4	19·3	17·6	19·4	110	99	91	100
1886–90 ...	21·7	18·0	17·0	18·9	115	95	90	100
1891–95 ...	21·8	18·5	16·4	18·1	117	99	88	97
1896–1900	19·5	16·6	17·5	17·2	110	94	99	97
1901–05 ...	17·9	15·2	14·9	16·1	112	95	93	101
1906–10 ...	17·4	14·1	12·6	14·7	118	96	86	100
1911–15 ...	16·9	13·7	12·7	14·0	118	96	89	98
1916–20 ...	17·5	13·5	10·9	15·8	122	94	76	110
1921–25 ...	15·1	11·9	9·6	12·0	124	98	79	98
1926–30 ...	15·9	11·5	9·4	11·6	131	95	78	96
1931–35 ...	15·4	11·5	9·6	11·7	128	96	80	98
1936–40 ...	16·1	11·7	10·0	12·3	129	94	80	98
1941–45 ...	16·1	12·3	10·2	12·8	125	96	80	100
1931 ...	16·5	11·5	9·6	11·7	134	93	78	95
1932 ...	15·4	11·6	9·7	11·5	128	97	81	96
1933 ...	17·1	10·8	9·4	12·0	139	88	76	98
1934 ...	14·6	11·8	9·6	11·2	124	100	81	95
1935 ...	13·2	12·0	9·8	12·0	113	103	84	103
1936 ...	15·1	11·8	9·7	12·0	125	98	80	99
1937 ...	16·2	11·6	9·7	12·3	131	94	78	99
1938 ...	13·6	11·6	9·9	11·5	117	100	85	99
1939 ...	15·1	11·7	9·9	11·8	125	97	82	98
1940 ...	20·6	11·9	10·8	14·1	143	83	75	98
1941 ...	18·4	14·2	10·1	11·5	136	105	75	85
1942 ...	15·8	12·0	9·8	11·6	128	98	80	94
1943 ...	14·5	11·7	10·1	15·7	112	90	78	121
1944 ...	15·3	12·0	11·0	12·7	120	94	87	100
1945 ...	16·5	11·5	10·0	12·6	131	91	79	100

During the latter half of the 19th century the March quarter death-rate tended to be 10 or 15 per cent. in excess of the annual rate, whilst the September quarter rate was 7 to 12 per cent. in defect of it. With the decline in summer diarrhœa, and the increase in proportion of elderly people in the population, the March quarter rate between 1925 and 1939 tended to be about 30 per cent. above, and the September quarter rate to be about 20 per cent. below, the annual rate. In 1940, 1941, 1944 and 1945, quarterly death-rates were seriously affected by the irregular occurrence of civilian casualties by air-raids and long-range projectiles, causing disturbance to the ratios in the right-hand half of Table V. The high ratio for the December quarter of 1943, however, was due to natural causes.

Table VI.—Numbers of Deaths of Civilians registered as due to Operations of War and All Other Causes (*a*) which occurred, and (*b*) which were registered, during each Quarter of 1940 to 1945.

Year	Quarter	Operations of War			All other Causes		
		Occurred during Quarter (1)	Registered during Quarter	Cumulative deficiency at end of Quarter (2)	Occurred during Quarter (D) (1)	Registered during Quarter (R)	Difference R—D
1940 ...	March	127	121	6	202,911	204,065	1,154
	June	132	123	15	116,655	117,889	1,234
	Sept.	8,183	6,949	1,249	101,116	101,760	644
	Dec.	14,826	15,022	1,053	128,076	126,715	—1,361
1941 ...	March	5,956	6,688	321	168,777	169,337	560
	June	10,942	11,006	257	125,096	125,774	678
	Sept.	1,032	1,201	88	97,133	97,641	508
	Dec.	609	648	49	113,173	112,139	—1,034
1942 ...	March	281	305	25	148,601	148,845	244
	June	1,828	1,698	155	112,288	112,841	553
	Sept.	1,167	1,200	122	93,386	93,590	204
	Dec.	522	588	56	112,162	111,590	— 572
1943 ...	March	1,175	1,183	48	133,955	134,016	61
	June	1,015	1,031	32	108,696	109,340	644
	Sept.	418	408	42	95,784	95,638	— 146
	Dec.	378	380	40	150,391	149,535	— 856
1944 ...	March	1,519	1,496	63	141,180	141,943	763
	June	2,447	2,088	422	109,977	110,356	379
	Sept.	4,057	4,394	85	100,387	99,790	— 597
	Dec.	1,437	1,351	171	122,718	119,632	—3,086
1945 ...	March	2,059	2,144	86	150,434	153,136	2,702
	June	97	143	40	108,458	109,015	557
	Sept.	40	46	34	96,915	95,719	—1,196
	Dec.	73	71	36	121,037	121,000	— 37
	Annual						
1940 ...	Totals	23,268	22,215		548,758	550,429	1,671
1941 ...	,,	18,539	19,543		504,179	504,891	712
1942 ...	,,	3,798	3,791		466,437	466,866	429
1943 ...	,,	2,986	3,002		488,826	488,529	— 297
1944 ...	,,	9,460	9,329		474,262	471,721	—2,541
1945 ...	,,	2,269	2,404		476,844	478,870	2,026

(1) As ascertained from registrations at any date up to end of March quarter of 1946.
(2) Difference between total deaths registered between 1st January, 1940, and end of the quarter specified and total deaths known from these and subsequent registrations to have occurred between the same dates.

Table VI shows the numbers of deaths of civilians which were registered during each quarter of 1940–45 as due to operations of war (International List No. 197) and all other causes combined. Large numbers of the civilian deaths caused by enemy action occurred in such circumstances that recovery of remains or proof of death was necessarily delayed, with the result that registration of death did not take place until several days, weeks or even months had elapsed. When such deaths occurred near the end of a quarter, considerable numbers might not be registered until the quarter following the date of death. For accurate study of this particular cause of death, therefore, it is necessary to make use of the total persons known from subsequent registrations to have died during a quarter, rather than the numbers of deaths

registered during that quarter.* The two series are compared in the first two columns of the table, and the third column shows the numbers of deaths which must have been awaiting registration at the end of each quarter.†

In the September quarter of 1940, when enemy attacks by air are known to have killed 8,183 civilians, registration was delayed until a later quarter for about 1,230 of these deaths. Most of these must have been registered in the December quarter, so that although 14,826 fresh deaths are known to have occurred in that quarter, there was a net excess of registrations over occurrences amounting to 196. At the end of 1940 the number awaiting registration was 1,054. In the June quarter of 1941, 10,395 of the 10,942 deaths occurred during April and May (Table 23), so the number remaining unregistered at the end of June was comparatively small (258). By the end of 1941 all of the 41,807 civilian war deaths known to have occurred in the two years had been registered except 49. During 1942–45 the quarters with considerable excess of deaths occurring over deaths registered were the June quarters of 1942 and 1944. In the latter quarter casualties from V1 projectiles were heavy during the month of June, and about 350 of the deaths were not registered until the next quarter.

The annual death-rates per million from operations of war based upon occurrences and registrations compare as follows :—

	1940	1941	1942	1943	1944	1945
Occurrences	583	479	99	79	250	59
Registrations	557	504	99	79	247	63

For other causes of death the effect of the few days' interval between occurrence and registration has rarely any appreciable effect upon death-rates. Table VI shows the difference (R—D) between the number of deaths registered during each quarter as due to causes other than operations of war (R) and the number known to have occurred in the same quarter (D). In normal circumstances, R — D depends mainly upon differences between the number of deaths in the last week of the quarter and the number in the last week of the quarter preceding, since only a very small fraction remain still unregistered at the end of the week following that in which they occur. Owing to the seasonal variation in mortality, it follows that R — D is normally positive in March and June quarters and negative in December quarter.‡ There is, however, the further complication that when a quarter ends on a Saturday or Sunday, most deaths occurring on the last one or two days of the quarter cannot be registered until the first days of the quarter following. This accounts for peculiarities in the value of R — D in March quarters of 1940 and 1945, September quarters of 1940, 1944 and 1945, and December quarters of 1944 and 1945. The June quarters are not affected by this, being exactly 13 weeks. Allowing for these disturbing factors, there is nothing noteworthy in the war-time quarterly registration figures for causes other than operations of war.

* Some civilians must have died without any evidence being left that they were in the locality where the explosion or fire occurred, and such deaths will have escaped registration altogether. To that extent Table VI is an incomplete record of civilian deaths from operations of war, but it is not believed that the total number of deaths unrecorded was large.

† At the end of 1939 one death of a civilian due to operations of war was awaiting registration ; consequently the cumulative differences from 1st January, 1940, as shown in the table need to be increased by 1 to give the numbers awaiting registration at subsequent dates.

‡ During 1930–39 the average number of deaths registered in the Great Towns during the last week of the year and the 13th, 26th and 39th weeks were 5,996, 5,327, 3,904 and 3,848, respectively.

The annual civilian death-rates per million from all causes except operations of war, based on occurrences and registrations were :—

	1940	1941	1942	1943	1944	1945
Occurrences ...	13,757	13,013	12,197	12,929	12,552	12,497
Registrations ...	13,799	13,032	12,208	12,918	12,484	12,550

The error arising from use of numbers of registrations did not exceed one-half per cent. in any of these years.

Table VII shows the civilian death-rates from operations of war, and from all other causes combined, in each quarter of 1939–1945. They are based on the dates of occurrence of deaths and upon the estimated population living at the middle of the quarter, and may differ slightly from rates given elsewhere which are based on numbers of registrations and mean annual populations.

Table VII.—Quarterly Death-rates from Operations of War and All Other Causes, 1939 to 1945. (Civilians after September, 1939.)

Quarter	Quarterly death-rate per 1,000 estimated mid-quarter population						
	1939	1940	1941	1942	1943	1944	1945
	Operations of war						
March ...	·00	·01	·62	·03	·13	·16	·22
June ...	·00	·01	1·13	·19	·11	·26	·01
September ...	·00	·82	·11	·12	·04	·43	·00
December ...	·00	1·49	·06	·05	·04	·15	·01
	All other causes						
March ...	15·09	20·19	17·45	15·69	14·31	15·04	16·12
June ...	11·66	11·69	12·89	11·77	11·53	11·71	11·48
September ...	9·95	10·09	9·95	9·70	10·05	10·57	10·09
December ...	11·96	12·88	11·64	11·68	15·79	12·91	12·40

The quarters in which the death-rate from causes other than operations of war was unusually high were the March quarter of 1940, March and June quarters of 1941 and December quarter of 1943. In Table VIII the deaths in each quarter of 1939, 1940, 1941 and 1943 have been analysed by sex and seven groups of causes in order to ascertain the reasons for these high rates.

TABLE VIII.—Numbers of Deaths by sex and from Certain Causes occurring in each Quarter of 1939, 1940, 1941, 1943.

	Quarter	MALES (1)				FEMALES (2)			
		1939	1940	1941	1943	1939	1940	1941	1943
Tuberculosis (all forms) ...	M.	4,423	4,997	4,856	4,188	3,023	3,530	3,405	2,819
	J.	3,900	3,975	4,496	3,702	2,764	3,000	3,384	2,729
	S.	3,033	3,105	3,385	3,109	2,366	2,525	2,572	2,215
	D.	3,628	3,907	3,501	3,974	2,587	2,755	2,650	2,574
Other infective diseases (3) ...	M.	1,252	1,628	2,162	1,200	1,074	1,343	2,013	1,141
	J.	1,016	1,196	1,674	904	935	929	1,574	795
	S.	860	1,096	1,202	653	654	892	1,069	583
	D.	973	1,606	1,117	812	791	1,373	1,008	707
Diseases of respiratory system and influenza	M.	17,582	31,477	19,430	12,165	16,546	25,582	17,613	10,395
	J.	8,363	7,293	9,118	6,663	6,331	5,606	6,588	4,694
	S.	4,315	4,618	4,242	4,046	2,999	3,320	2,985	2,823
	D.	7,909	9,390	7,652	17,921	5,888	7,528	5,778	16,429
Diseases of circulatory system and senility	M.	22,861	29,865	24,901	20,114	25,924	32,844	27,513	22,005
	J.	18,346	17,615	18,903	16,253	19,597	19,107	19,687	17,540
	S.	15,144	14,949	13,742	14,065	16,275	16,288	14,547	15,247
	D.	19,750	18,845	16,591	22,540	20,754	20,978	17,772	24,284
Diseases of digestive system ...	M.	3,668	3,752	3,689	3,032	2,673	2,801	2,721	2,332
	J.	3,151	3,018	3,368	2,905	2,421	2,357	2,418	2,220
	S.	3,067	3,087	2,847	2,820	2,455	2,405	2,340	2,338
	D.	3,170	3,493	2,965	3,099	2,500	2,675	2,331	2,462
Other diseases and ill-defined causes	M.	24,058	28,780	26,524	24,141	24,740	29,524	27,194	25,409
	J.	23,139	22,993	23,597	22,488	24,451	24,281	24,335	23,507
	S.	22,308	21,048	21,023	21,164	23,764	22,187	22,007	22,557
	D.	23,985	23,625	22,654	24,559	25,555	24,525	23,383	25,949
Violent causes except operations of war	M.	3,543	4,156	4,304	3,171	2,146	2,632	2,452	1,843
	J.	3,663	3,518	3,971	2,799	1,863	1,867	1,983	1,497
	S.	4,381	3,780	3,523	2,743	1,871	1,816	1,649	1,421
	D.	4,607	4,955	3,801	3,069	2,258	2,421	1,970	2,012
ALL CAUSES except operations of war	M.	77,387	104,655	85,866	68,011	76,126	98,256	82,911	65,944
	J.	61,578	59,508	65,127	55,714	58,362	57,147	59,969	52,982
	S.	53,108	51,683	49,964	48,600	50,384	49,433	47,169	47,184
	D.	64,022	65,821	58,281	75,974	60,333	62,255	54,892	74,417

(1) Civilians only from 3rd September, 1939.
(2) Civilians only from 1st June, 1941.
(3) Excludes influenza, sequelae of syphilis and Hodgkin's disease.

In March quarters of 1940 and 1941, the large excess of deaths compared with the corresponding quarter of 1939 was made up as follows :—

	Number of deaths in excess of March quarter, 1939				Excess as per cent. of 1939 figure			
	1940		1941		1940		1941	
	M.	F.	M.	F.	M.	F.	M.	F.
Tuberculosis	574	507	433	382	13	17	10	13
Other infective diseases ...	376	269	910	939	30	25	73	87
Respiratory and influenza	13,895	9,036	1,848	1,067	79	55	11	6
Circulatory and senility ...	7,004	6,920	2,040	1,589	31	27	9	6
Digestive diseases ...	84	128	21	48	2	5	1	2
Other diseases	4,722	4,784	2,466	2,454	20	19	10	10
Violence (not war) ...	613	486	761	306	17	23	21	14
All causes except operations of war	27,268	22,130	8,479	6,785	35	29	11	9

In March quarter of 1940, when the weather was exceptionally severe, the respiratory disease group accounted for half of the excess mortality of males and two-fifths of that of females, but the other causes except digestive diseases also showed increases of 15 to 30 per cent. The excess in the March quarter of 1941 was relatively greatest for the small group of other infective diseases, this being chiefly due to measles, diphtheria and whooping cough. There was no appreciable increase for the digestive group, and respiratory diseases showed no outstanding increase. Table VIII shows also that in the June quarter of 1941, male mortality was in excess for each group of causes, whereas females showed noteworthy increases only for tuberculosis and other infectious diseases. The high incidence of respiratory, circulatory and digestive disease fatalities in that quarter amongst men probably resulted from the severe stresses to which male civilians were exposed during the first half of 1941, for no such excess was evident in the latter half of that year.

The high influenza and respiratory mortality in the December quarter of 1943, when there was a severe epidemic, was accompanied by large increases for tuberculosis in men and for circulatory diseases in both sexes.

Mortality of each sex.—Table IX shows the death-rates of males at different age-groups expressed in terms of the corresponding female rates taken as 100, and the adjusted percentage ratios of male to female mortality at all ages, for quinquennial periods from 1841–45 to 1941–45 and separate years from 1931 to 1945. The sex-ratios at separate age-groups are derived from Table 5 (except in 1911–15 and 1916–20, when rates based on the total male population have been used in place of civilian rates). The adjusted percentage ratios are one hundred times the unit ratios shown in Table 3 of the Reviews from 1941 onwards, and are calculated by the method explained on page 8.

During 1940–45 the ratios are between civilian rates, and at ages between 15 and 55 they are affected by that fact to an extent which increased progressively as successive age-groups of men were called to the services. At those ages any direct effects of war conditions on mortality are obscured by the superimposed effects, much greater for men than women, of physical selection at recruitment and discharge of the unfit from the services.

The sex-ratios at certain ages were changing progressively during the pre-war years, and it may be assumed that these changes would have continued until 1945 had there been no war. The war cannot be supposed to have accounted for more than the difference between the observed change in ratio and that which would have occurred by continuation of the pre-war trend. At ages between 5 and 20, for example, sharp increases in the sex-ratio occurred between 1934–36 and 1937–39 owing to the increasing proportion of violent to non-violent deaths and the very high sex-ratio for the former.

Age-group	Average percentage ratio of Male to Female mortality				
	1931–33	1934–36	1937–39	1940–42	1943–45
0–	126	126	127	127	126
5–	114	111	118	122	135
10–	105	106	112	120	124
15–	112	106	118	124	127
20–	114	113	114	188	215
25–	108	108	112	154	173
35–	125	125	128	145	147
45–	139	143	147	152	155
55–	136	144	151	162	167
65–	132	133	136	140	144
75–	122	126	129	132	129
85 and over ...	110	112	111	111	110

Table IX.—Mortality of Males per cent. of that of Females at Various Ages from 1841–45 onwards. (*See* Table 5).

Year	Adjusted Percentage Ratio of Male to Female Mortality	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75–	85 and over
1841–45	110	117	102	92	88	105	95	101	114	111	111	109	106
1846–50	109	116	103	95	91	104	94	99	113	112	111	109	107
1851–55	110	116	104	98	90	103	97	102	118	114	112	110	106
1856–60	110	115	99	96	90	102	96	103	118	115	111	108	107
1861–65	112	115	102	98	93	105	100	109	122	118	112	109	110
1866–70	113	115	107	100	94	106	105	113	124	120	115	109	111
1871–75	115	117	108	100	97	109	109	119	128	121	114	111	110
1876–80	116	118	107	97	96	108	109	119	129	122	114	112	111
1881–85	115	118	102	97	96	102	104	117	127	122	116	113	112
1886–90	116	119	100	97	98	106	107	117	129	122	117	112	114
1891–95	116	119	98	96	100	108	108	118	128	121	115	111	110
1896–00	118	118	98	96	106	120	116	122	129	124	117	113	109
1901–05	119	119	97	95	107	119	118	121	130	128	119	115	110
1906–10	120	119	97	95	107	121	118	121	129	128	121	115	113
1911–15	123	120	100	95	111	122	124	126	132	133	124	118	115
1916–20	128	121	100	92	114	122	124	131	135	137	132	121	111
1921–25	124	124	104	100	100	113	114	130	132	133	127	119	110
1926–30	127	125	110	105	106	108	112	134	140	136	130	121	107
1931–35	128	126	110	100	109	114	106	126	142	139	132	123	113
1936–40	134	127	115	113	115	120	115	129	147	152	136	130	113
1941–45	141	126	130	123	128	207	169	147	153	165	143	130	109
1926	126	124	109	100	104	107	112	133	135	134	129	123	111
1927	126	125	109	107	104	110	112	135	137	134	129	120	108
1928	128	126	109	113	108	103	112	130	138	136	130	123	110
1929	126	122	113	100	108	110	111	139	143	134	126	117	103
1930	129	128	110	104	109	112	111	133	144	139	133	121	103
1931	127	128	115	100	108	114	106	129	140	135	132	121	111
1932	127	125	116	108	114	114	110	123	135	137	134	123	110
1933	126	126	110	107	113	114	109	124	141	137	129	122	110
1934	128	124	104	100	109	115	107	124	142	142	132	124	111
1935	130	126	111	100	105	112	107	125	146	143	134	126	112
1936	131	128	117	118	105	112	111	126	142	147	133	127	112
1937	131	127	118	109	117	108	111	128	146	149	133	125	108
1938	134	129	106	118	118	122	116	129	148	150	137	130	112
1939	134	126	131	110	119	113	108	126	147	155	137	131	112
1940	138	129	118	113	119	168	139	141	155	160	136	130	113
1941	141	125	121	121	129	198	163	150	152	163	140	133	107
1942	142	127	128	127	123	197	160	145	150	162	145	133	111
1943	140	125	136	112	125	214	165	143	155	164	141	128	110
1944	143	126	134	129	126	203	175	153	155	169	146	130	112
1945	142	127	134	131	130	227	180	144	154	168	145	128	108

At ages under 5 and over 85 no significant change occurred in the sex-ratios, which have not varied consistently since 1921. At ages 5–9 male excess increased to about 35 per cent. in 1943–45, this being due to the rapid decline in deaths from disease (for which the sex-ratio is about 110 at these ages) with no corresponding fall in accident fatalities whose sex-ratio is over 200. In 1940–42, deaths by accident comprised 23 per cent. of all deaths for boys aged 5–9, and in 1943–45, 32 per cent. At ages 10–19 the sex-ratio increased in continuation of the pre-war trend, this being again due to the increasing proportion of the total mortality due to all violent causes. In 1937–39, the proportion was 21·8 per cent. for males and 7·3 per cent. for females; but in 1940–42 these proportions were 38·0 and 22·5 per cent. respectively. The sex-ratio at these ages for non-violent causes was 96 in both periods.

Mortality in the age periods between 20 and 35 was evidently greatly affected by selective movements into and out of the services, male excess rising by 1943–45 to 115 per cent. at 20–24 and 73 per cent. at 25–34, although in 1937–39 it was less than 15 per cent. The selective factor probably also accounted in part for the increase of male excess at 35–44 to 45 per cent. At 45–54, and also at 75–84, the upward trend in the sex-ratio continued without any special

influence of the war being apparent. At 55–64 the degree of male excess rose to 67 per cent. in 1943–45 compared with 51 per cent. in 1937–39 and 36 per cent. in 1931–33. At 65–74 also the sex-ratio increased during the war rather more than was to be expected, averaging 44 per cent. in 1943–45.

Statistical Significance of Death-rates.—Whilst it is most desirable that conclusions should not be drawn from differences between death-rates without inquiring first whether the differences have any statistical significance when account is taken of the numbers of deaths on which the rates are based, it is scarcely practicable to introduce into the many tables of death-rates in the Annual Review any statistical measure of their significance. In Part I of the Review, however, all death-rates based upon less than 20 deaths have been distinguished by italic type in order to convey a warning that such rates are subject to a specially large amount of variation in proportion to their magnitude owing to the small number of persons whose experience is being recorded, and in such cases a test of statistical significance should always be applied before making even a tentative deduction from rate differences. The necessity for such a test still holds for rates based upon numbers of deaths exceeding 20, but the likelihood that a given deviation from some expected value has arisen merely by chance diminishes as the size of the experience increases. In this Review an approximate test of significance has been applied to death-rates wherever it has been deemed to be important.

Provided that the deaths are few in comparison with the population at risk (as is usually the case except at ages over 75) an approximate measure of the variability, or standard error, of the number of deaths is given by the square root of that number. This rule pre-supposes the independence of the deaths one of another and would cease to be accurate if a large proportion of the recorded deaths was due to some factor, for instance an explosion or an epidemic, affecting simultaneously a large number of persons in the population under consideration. This is rarely of importance in connection with death-rates from all causes combined. For practical application it is generally more convenient to deduce the standard error from the actual deaths rather than from " expected " deaths based on some standard mortality, although in some circumstances the latter may have theoretical advantages as a basis for calculating the standard error. If the recorded deaths in a population group happen to be zero, it is necessary if a standard error is required to calculate it from the square root of the deaths expected by applying some standard rate to the population. When comparison is being made with a standard rate, such as the national death-rate or the mortality in all county boroughs, it may also be convenient in some cases to substitute the square root of the deaths expected if the standard rate were operative on the local population. It is not of much practical importance which of these measures of variability is used and the method which is most readily applicable by means of the data tabulated and which seems most suitable to the comparison required will be employed. What is of more importance is to remember that little or no useful purpose can be served by measuring the standard errors of crude death-rates which are affected by differences in sex and age constitution of the populations. Before any test of the statistical significance of a difference between two rates can be usefully applied both rates must first be corrected to a common standard to remove the effects of peculiarities in the constitution of the population at risk.

The extent to which the number of deaths which happen to occur in populations of the same size and constitution in the same year may vary on account of random sampling, and the decrease in the proportionate amount of such variability as the size of the experience increases, may be seen from the

following values of the standard error, expressed as a percentage of the number of deaths in each instance :—

No. of deaths	10	20	50	100	200	500	1,000
Standard error as percentage of No. of deaths	± 32	± 22	± 14	± 10	± 7	± 4	± 3

A positive deviation from the average number of deaths amounting to as much as twice the standard error may occur about once in 44 times and the odds against such a deviation being due to chance would be about 43 to 1*. These would likewise be the odds against a negative deviation amounting to twice the standard error being due to chance. Taking this as a reasonable arbitrary limit of unlikelihood no deviation will be regarded as statistically significant unless it equals or exceeds twice the square root of the number of deaths. Thus, a number of towns, each of such a size as to produce on the average 50 annual deaths, may have in the same year numbers of deaths ranging from 36 to 64 without the differences having any hygienic significance (15 being a just significant variation from 50 according to the definition).

The application of this convention to determine the significance of differences between infant mortality rates or other rates not requiring correction for age constitution is a simple matter. The standard error of the rate R (per unit) is given by the ratio of the square root of the deaths D to the population at risk P, and since in this case $P = D/R$, the standard error of R can be expressed as $R/\sqrt{D}$ and obtained by simply dividing the rate by the square root of the number of deaths. This last expression is equally applicable whether R is measured per unit, per cent., or per 1,000 of the population or births. Thus, for a town with an infant mortality rate of 69 per 1,000 births based on 25 deaths, the rate of 69 has a standard error of the order 69/5 or about 14.

The same simple rule applies also to ratios of registered to calculated deaths or of adjusted to national death-rates. An example of the former may be taken from Table LXXIII, which shows that in 1940–44 the region of North IV recorded 276 deaths of males from Hodgkin's disease, compared with 262 as calculated by means of the formula in the next section (page 27). The standard error of the comparative mortality figure 105 was therefore $105/\sqrt{262}$ or 6·5, so that the C.M.F. differed from the national figure (100) by less than the standard error. Since a difference as great as or greater than this might occur by chance as often as three times out of seven, it cannot be concluded that mortality of males from Hodgkin's disease in North IV differed significantly from that in England and Wales as a whole.

Comparative Mortality in Regions and Different Classes of Area.—The National Register enumeration of the civilian population at the end of September, 1939, and records of subsequent evacuation movements of children in organized parties, made it possible to estimate the populations of regions and of national aggregates of county boroughs, other urban districts and rural districts by sex and age-groups for the years 1940 and 1941. These are shown in Table 2 of the Reviews for those years. By the end of 1941 the absence of any statistical knowledge of the ages of adults who were changing their places of residence temporarily or permanently and the increasing complexity of the directions of movement made it necessary to suspend the compilation of Table 2 for subsequent years. Total populations of separate administrative areas and of regions were compiled at the end of every quarter from the information provided by the national register, Food Offices and other sources, and from 1943 onwards the totals were supplemented by returns of the numbers of children, but estimation of regional and local populations according to sex or adult age was

* A positive deviation not less than the standard error may be expected about once in 6 times, and a positive deviation not less than 1½ times the standard error about once in 15 times.

not possible for years 1942–45. The calculation of comparative mortality ratios for separate administrative areas and regions, first introduced into Table 17 of the Review for 1934, and continued up to 1939, became impracticable from 1940 onwards for these reasons, and their resumption may have to await another census.

Since it is desirable to be able to compare mortality from certain causes of death at all ages in regions and in different classes of area during the war, and since crude death-rates can be of little value for many diseases, a method of estimating the regional populations in broad age-groups has had to be devised in order to obtain comparative mortality figures which have been standardized on broad groups.

At ages 0–5 and 5–15, the regional populations for the whole period 1940–44 have been estimated by means of the available data for 1940, 1941, 1943 and 1944 ; and death-rates at these age-groups can be calculated directly and with fair accuracy.

At ages 15 and over an indirect method has been used involving certain assumptions. In each of six sex-age groups, namely, males and females of ages 15–, 45–, 65 and over, the death-rates from all non-violent causes (Nos. 1–32, 36 of the Short List) in 1940–41 were first calculated for each region and density aggregate by means of the data in Tables 2 and 24 for those years. These death-rates were then expressed in terms of the corresponding rates for England and Wales as a whole, the resulting relative mortalities in 1940–41 being denoted by r. It was thought preferable to use 1940–41 as basis rather than 1938–39, because the first great evacuation movements had then occurred.

The values of 100r are given in the table and are of interest in themselves, showing as they do the regional differences in mortality from natural causes during the first two years of the war.

Mortality from non-violent Causes in Regions, per cent. of that in England and Wales (100r), 1940–41.

	Males					Females				
	0–	5–	15–	45–	65 and over	0–	5–	15–	45–	65 and over
England and Wales ...	100	100	100	100	100	100	100	100	100	100
Greater London	87	89	98	103	105	86	85	96	93	103
Rest of South East ...	76	73	86	85	92	74	72	81	86	92
North I	124	123	122	103	98	127	133	126	113	103
North II	110	89	107	103	106	108	98	111	106	105
North III	103	106	101	107	104	102	98	100	108	104
North IV	129	122	115	119	106	128	128	113	115	107
Midland I	105	106	97	98	100	105	101	98	98	99
Midland II	94	92	90	91	97	95	97	96	98	98
East	75	85	81	79	93	81	77	81	93	98
South West	83	104	93	87	98	79	91	86	93	96
Wales I	117	123	120	106	99	120	135	133	110	100
Wales II	113	104	105	99	104	121	105	111	108	100
County boroughs* ...	123	132	117	117	106	123	133	111	109	104
Other urban districts* ...	96	95	95	95	98	97	97	97	100	98
Rural districts*	82	77	82	78	92	82	75	89	93	95

* Excluding Greater London.

Comparing county boroughs with rural districts the urban excess of mortality was 73 per cent. for children of school age and 50 per cent. for children under five ; for young adults it was 43 per cent. for men and 25 per cent. for women ; at ages 45–65 it was 50 per cent. for men and 17 per cent. for women, and for older people 15 per cent. for men and nine per cent. for women. Amongst the regions the range of mortality was greatest for girls aged 5–15, Wales I, North I and North IV showing more than 78 per cent. excess over the South East excluding London. For boys of school age and children under five the excess of North I and IV rates over the South East was about 70 per cent. The range of variation diminished through the adult age-groups until at ages over 65 the highest rates, those of North II and IV, were only 15 per cent. in excess of the lowest, which were again found in the South East, excluding London.

For England and Wales and each region and density aggregate the total deaths from non-violent causes in years 1940–44 are known for each of the six sex-age groups. Let n denote the regional, and N the national five-year total of deaths for a particular sex-age group ; and let p and P denote the corresponding five-year populations, of which P is known directly and p needs to be estimated. As a first tentative assumption, suppose that if the national death-rate at a given age fluctuated in 1942, 1943 and 1944 from the level of 1940–41, each regional death-rate at that age was affected in proportionate degree, that is to say, that each ratio r remained the same for 1940–44 as for 1940–41. Then since $\frac{n}{p} = \frac{rN}{P}$, it follows that Pn/rN gives a first estimate of p, the regional population in 1940–44 for the particular sex-age group.

Since the *total* regional populations at ages over 15 were ascertainable directly by means of the National Register, the sum of the six estimates of p for each region was next compared with this " true " value of the population over 15 ; and all the values of p were rateably adjusted to produce the correct totals, both for each sex-age group in the country as a whole and at ages over 15 for each region.

The assumption involved in this final estimate is that if the ratios of regional to national death-rates from non-violent causes at the six sex-age groups over 15 changed from their 1940–41 level (r) during the next three years, the resultant death-rate in 1942–44 was affected thereby in the same direction and proportion for each of the sex-age groups in that region. This assumption can be tested in the pre-war period.

In Greater London during 1933–38, for example, the annual death-rate from non-violent causes amongst women aged 45–65 ranged from 0·857 to 0·916 of the national rate ; for 1933–34 the ratio was 0·906 and for 1935–38 it fell to 0·875. Did the other sex-age groups show a comparable change in ratio in the second period ? . The answer appears below :—

		M. 15–	M. 45–	M. 65–	F. 15–	F. 45–	F. 65–
Ratio to national death-rate.	1933–34	0·948	1·027	0·984	0·863	0·906	0·945
	1935–38	0·915	0·976	0·957	0·841	0·875	0·927

In Wales, on the other hand, the ratio for women aged 45–65 increased from 1·16 in 1933–34 to 1·21 in 1935–38 ; and a similar increase occurred in

the other groups (though for women at the tuberculosis ages 15–45 it was not so pronounced as in the other groups) :—

		M. 15–	M. 45–	M. 65–	F. 15–	F. 45–	F. 65–
Ratio to national death-rate.	1933–34	1·131	1·065	1·058	1·342	1·160	1·081
	1935–38	1·188	1·109	1·111	1·353	1·212	1·122

Generally speaking, the assumption made is the best possible and is sufficiently reliable for the purpose in view, namely to distribute known regional population totals at ages 15 and over for 1940–44 into six sex-age groups with such degree of accuracy that comparative mortality figures at all ages based on them may not be in error by more than one per cent. These population estimates are not intended for calculating regional death-rates at separate age groups, and have not been so used in this Review. They have been used for calculating C.M.F.'s for a number of diseases in Tables LXXIII, LXXVII, LXXXIX, XCI, XCVII, CII and CV by the usual method. If m_1, m_2,.....m_{10} represent the national mean annual civilian death-rates from the disease in 1940–44, and p_1, p_2,.....p_{10} the estimated regional populations (five-year totals) for males aged 0–, 5–, 15–, 45–, 65– and females aged 0–, 5–, 15–, 45–, 65–, the expected deaths in the five years are given by summation of the products $m_1 p_1 + m_2 p_2 +$.....$+m_{10} p_{10}$. The C.M.F. is defined as the actual deaths at all ages (given in Tables 24 or 24A) expressed as a percentage of the expected deaths.

Infant Mortality.

Infant mortality rates are usually expressed as the number of deaths at ages under one year per 1,000 live births registered during the same year. Such rates make no allowance for the time-lag between occurrence of a birth and its registration, nor for the fact that a considerable proportion of the infants who die during a year were in fact born during the year preceding. When neither the average time-lag nor the number of births in a year is changing greatly, the errors involved in the use of the simple definition are not important, and the correction which was applied during the period 1915–25 was discontinued until 1939.

As was pointed out in the 1938–39 Review (Text page 19), even before food rationing was introduced the average time-lag between birth occurrence and registration was tending during 1939 to fall below the pre-war value of about a month, with the result that in that year 619,352 live births were registered although only 614,479 occurred, an excess of 0·8 per cent. The quarterly average intervals in days during 1939–45 were as follows :—

Quarter	1939	1940	1941	1942	1943	1944	1945
March	31·9	28·4	20·8	14·4	11·2	12·1	12·9
June	30·9	25·5	19·0	12·7	11·2	11·4	11·6
September	29·7	21·2	16·5	12·4	10·8	11·5	11·2
December	28·4	20·6	14·4	11·9	11·5	12·4	10·8

By the end of 1940 the average interval had decreased to three weeks, by the end of 1941 to 14½ days and a year later to less than 12. In 1943, 1944 and 1945 the average intervals were 11·2, 11·9 and 11·6 days respectively. The discrepancies between the numbers of birth occurrences and registrations in years 1940, 1941, 1942 and 1945 shown in Table X were due mainly to this,

(86504) B

but the rapid changes in birth totals also contributed something since the transfers of a week's births at the beginning and end of a year failed to balance one another. With an increasing number of weekly births, as in 1943 and 1944, this had the effect of causing registrations in those years to fall short of the births which actually occurred.

Changes in birth-rates impose other and more important errors upon infant mortality rates because the numbers of infants originally born who could die at ages under one month, 1–3 months, 3–6, 6–9 and 9–12 months during a given year B all include some who were born in the preceding year A. Consequently it is only justifiable to use the total birth occurrences in year B as denominator of infant mortality rates when the total births were approximately the same in the two years and no sharp variations occurred during the period AB.

Supposing, for example, that during a period of falling births, the infant mortality rate at ages 6–9 months is required for year B, the births to which these deaths should be related occurred between 1st April of year A and 30th June of year B, only half of those born in each April–June quarter being at risk to die in year B. If x more births occurred in April–June, and y more births occurred in July–December, of year A than in the corresponding period of year B, the related births forming the denominator of the rate at ages 6–9 months are obtained by adding $\frac{1}{2}x + y$ to the total birth occurrences in year B.

The method of correction used for annual rates is to calculate separate rates at five age periods, using the related births as estimated below, and then add together the five rates in order to obtain the infant mortality rate at 0–1 year of age.

Age period of deaths	Related births
	Total live births *occurring* in the calendar year of death experience, increased by the amounts indicated below (where "excess" signifies the excess of births occurring in the specified period of the previous year over the number occurring in the corresponding period of the experience year). If there was a deficiency instead of excess the amount indicated is deducted instead of added.
Under 4 weeks ...	0·452 × Excess in December.
4 weeks–3 months...	0·654 × Excess in October–December.
3–6 months ...	Excess in October–December + ½ Excess in July–September.
6–9 months ...	Excess in July–December + ½ Excess in April–June.
9–12 months ...	Excess in April–December + ½ Excess in January–March.

The above method is used only for England and Wales as a whole and without distinction of sex or legitimacy. The denominators for male, female, legitimate and illegitimate rates are derived by distributing the total related births thus obtained in the proportions given by the birth occurrences in the year when the deaths were registered. Rates for separate regions and areas are obtained by calculating crude rates on the basis of registered births and multiplying by the England and Wales ratio of registered to related births. Quarterly infant mortality rates per 1,000 related births are obtained by using as denominators of the fractions the following numbers in place of the simple total of registered births of the same quarter, and adding together the five rates which result :—

Ages under 4 weeks	$0{\cdot}846\ B_0 + 0{\cdot}154\ B_1$
Ages 4 weeks–3 months ..	$0{\cdot}346\ B_1 + 0{\cdot}654\ B_2$
Ages 3–6 months	$\frac{1}{2}(B_2 + B_3)$
Ages 6–9 months	$\frac{1}{2}(B_3 + B_4)$
Ages 9–12 months	$\frac{1}{2}(B_4 + B_5)$

where B_0=live births *occurring* in the quarter of death experience, B_1 = number in the quarter preceding, B_2 = number in quarter before that and so on.

Table X gives the necessary data (collected from Tables B and D for births and from Tables 13 and 21 for deaths) for the calculation of annual infant mortality rates per 1,000 related births in England and Wales during 1940–45. Such rates for years 1931 onwards are shown in Tables 3, 10, 12, 15 and 17 of the Reviews from 1941 onwards, but all the rates given in the 1940 Review were uncorrected. The rate at ages under one year increased from 50·6 in 1939 to 60·0 in 1941, violent deaths due to operations of war contributing 0·4 to this rise. In 1942 the rate returned to 50·6 and in the next two years new low levels were reached, the 1944 rate with exclusion of war fatalities being 45·2. In 1945 the corresponding rate was slightly higher at 46·0.

Table X.—Deaths at Ages under One Year and Live Births by Sex, Legitimacy and Quarter of Year 1939 to 1945.

		1939	1940	1941	1942	1943	1944	1945
Number of deaths under 1 year registered		**31,190**	**33,892**	**34,550**	**32,258**	**33,431**	**33,455**	**31,959**
Legitimate ...	M	16,590	18,456	18,505	17,044	17,484	17,135	16,063
	F	12,269	13,317	13,622	12,553	12,938	12,727	11,791
Illegitimate ...	M	1,280	1,237	1,407	1,529	1,708	2,027	2,324
	F	1,051	882	1,016	1,132	1,301	1,566	1,781
Due to operations of war (included)	M	—	102	114	16	11	53	16
	F	—	101	117	22	15	56	14
March quarter		10,035	11,948	11,062	9,771	10,067	10,152	10,676
June quarter		7,897	7,713	8,787	7,868	8,106	7,983	7,227
September quarter ...		6,408	6,371	6,470	6,821	6,851	7,376	6,429
December quarter ...		6,850	7,860	8,231	7,798	8,407	7,944	7,627
Ages under 4 weeks ...		17,401	17,503	16,746	17,676	17,251	18,218	16,910
Ages 4 weeks–3 months...		4,904	5,513	6,455	5,566	5,995	5,923	5,670
Ages 3–6 months ...		4,350	4,948	5,493	4,723	5,319	5,053	4,931
Ages 6–9 months ...		2,724	3,465	3,317	2,651	3,016	2,703	2,737
Ages 9–12 months ...		1,811	2,463	2,539	1,642	1,850	1,558	1,711
Number of live births registered		**619,352**	**607,029**	**587,228**	**654,039**	**683,212**	**744,843**	**685,273**
Number of live births occurring		**614,479**	**590,120**	**579,091**	**651,503**	**684,334**	**751,478**	**679,937**
Legitimate ...	M	302,584	289,395	281,130	316,889	330,062	358,893	317,321
	F	286,325	275,092	266,903	298,147	310,563	337,412	299,196
Illegitimate ...	M	13,022	13,220	15,924	18,871	22,736	28,745	32,751
	F	12,548	12,413	15,134	17,596	20,973	26,428	30,669
March quarter		152,729	153,659	143,003	156,318	171,853	183,840	171,045
June quarter		163,126	153,138	143,080	168,310	178,904	200,548	174,968
September quarter ...		155,458	149,143	148,305	166,840	171,415	183,713	169,481
December quarter ...		143,166	134,180	144,703	160,035	162,162	183,377	164,443
Infant mortality rates :—								
Per 1,000 registered births in same year		50·4	55·8	58·8	49·3	48·9	44·9	46·6
Per 1,000 related births ...		50·6	56·8	60·0	50·6	49·1	45·4	46·0

The rates of 45 and 46 attained in 1944 and 1945 need to be compared with those of some other countries before they can be regarded with complacency, and a few of the best national achievements in those years are indicated below.

(86504) B 2

	1944	1945		1944	1945
New Zealand	30	28	U.S.A. (White) ...	37	36
Australia	31	29	South Africa	43	40
Sweden	31	30	Switzerland	42	41

Table XI shows the changes in quarterly rates since 1871–75 and in annual rates from enteritis, respiratory diseases and other causes since 1861–65. With the sudden decline in infant diarrhœa after 1911–15 the September quarter changed its position from highest to lowest amongst the quarters, and has consistently maintained that position. During the period 1916–35 mortality both from diarrhœa and respiratory disease was falling at about the same rate as for other causes, but there has been no consistent change in either during 1936–45. In 1941–45, the combined causes accounted for 30 per cent. of the total infant mortality, compared with about 33 per cent. in 1916–35.

Table XI.—Average Rates of Infant Mortality by Quarters and Average Annual Rates from Diarrhœa and Other Causes, in Quinquennial Periods 1861–1945 and in each Year 1931 to 1945.

Year	Annual average rates				Quarterly average rates			
	All causes	Diarrhœal diseases	Respiratory diseases and influenza	Other causes	March	June	September	December
1861–65 ...	151	16	25	110	—	—	—	—
1866–70 ...	157	21	26	110	—	—	—	—
1871–75 ...	153	20	27	106	151	133	180	149
1876–80 ...	145	17	30	98	147	128	161	143
1881–85 ...	139	15	27	97	140	125	152	139
1886–90 ...	145	18	29	98	146	125	163	147
1891–95 ...	151	21	31	99	151	132	169	151
1896–1900	156	32	28	96	142	124	212	148
1901–05 ...	138	24	26	88	137	113	162	140
1906–10 ...	117	19	22	76	124	98	120	128
1911–15 ...	110	20	21	69	119	91	120	109
1916–20 ...	90	9	21	60	116	83	75	91
1921–25 ...	76	8	18	50	94	70	62	77
1926–30 ...	68	7	16	45	91	62	51	67
1931–35 ...	62	6	14	42	83	58	47	60
1936–40 ...	55	5	11	39	73	53	43	53
1941–45 ...	50	5	11	34	64	47	40	48
1931 ...	66	5	17	44	94	59	46	64
1932 ...	64	6	14	44	87	61	49	61
1933 ...	63	6	14	43	84	54	49	64
1934 ...	59	5	11	43	81	58	46	54
1935 ...	57	5	11	41	68	58	45	58
1936 ...	59	6	12	41	81	56	44	54
1937 ...	58	5	12	41	72	57	44	58
1938 ...	53	5	10	38	69	50	42	49
1939 ...	51	4	9	38	66	50	41	46
1940 ...	57	4	13	40	79	51	42	55
1941 ...	60	5	14	41	77	61	45	57
1942 ...	51	5	10	36	65	49	42	48
1943 ...	49	5	11	33	60	47	40	50
1944 ...	45	5	9	31	58	42	40	43
1945 ...	46	5	10	31	60	41	37	45

Note.—Rates are based on registered births 1861–1925, related births 1926–1945.

In Table XII the changes in mortality at four stages of the first year are shown from 1881 to 1905, and at nine stages of infancy from 1906 to 1945. The trends up to 1939 have been described in previous Reviews. During 1944–45 nine out of 1,000 children born died within 24 hours of birth, another nine died in the next six days and seven in the second, third and fourth weeks, giving a neonatal rate of rather less than 25 or 1 of every 40 children born. In 1921–25 the proportion dying within four weeks was 1 of every 30. During 1944–45 in the fifth to thirteenth weeks of age eight infants died of the original 1,000, in the next three months seven, and between six and 12 months, another six, giving 21 between four weeks and one year. In 1921–25 the rate was twice as great.

Table XII.—Age Distribution of Infant Mortality, 1881 to 1945. Rates per 1,000 Live Births.

(Based on related births from 1926 onwards)

Year	Days		Weeks				Months					Total under one year
	0–1	1–7	0–1	1–2	2–3	3–4	Total under four weeks	Four weeks to 3 months	3–6	6–9	9–12	
1881–1885	—	—	—	—	—	—	67		28	44		139
1886–1890	—	—	—	—	—	—	69		30	46		145
1891–1895	—	—	—	—	—	—	74		31	46		151
1896–1900	—	—	—	—	—	—	74		34	48		156
1901–1905	—	—	—	—	—	—	70		28	40		138
1906–1910	11·5	13·0	24·5	5·8	5·7	4·2	40·2	22·8	22·0	17·3	14·8	117·1
1911–1915	11·4	12·7	24·1	5·7	5·3	3·9	39·0	20·2	19·6	15·9	14·1	108·7
1916–1920	11·0	12·4	23·4	5·6	4·7	3·4	37·0	16·5	14·6	12·0	10·8	90·9
1921–1925	10·4	11·3	21·7	5·0	3·9	2·8	33·4	12·8	11·3	9·2	8·3	74·9
1926–1930	10·3	11·5	21·8	4·3	3·2	2·4	31·8	10·8	9·5	8·0	7·4	67·6
1931–1935	10·7	11·7	22·4	3·9	2·9	2·2	31·4	9·9	8·5	6·5	5·6	61·9
1936–1940	10·4	11·2	21·5	3·4	2·5	1·8	29·2	8·8	7·8	5·4	4·0	55·3
1941–1945	9·3	9·5	18·7	3·2	2·3	1·7	26·0	8·9	7·7	4·4	2·8	49·8
1906	11·8	13·2	25·0	6·1	6·2	4·6	41·9	25·7	27·0	20·7	17·2	132·5
1907	11·3	13·1	24·4	6·0	5·9	4·5	40·7	23·3	21·3	17·3	15·1	117·6
1908	11·5	12·8	24·3	5·9	5·8	4·3	40·3	24·2	23·6	17·7	14·6	120·4
1909	11·6	13·2	24·7	5·7	5·3	4·0	39·8	20·4	19·2	15·6	13·8	108·7
1910	11·5	12·5	24·1	5·4	5·1	3·8	38·5	20·0	18·8	15·0	13·2	105·4
1911	11·6	12·7	24·3	6·0	6·0	4·5	40·6	24·7	25·9	20·6	17·4	129·2
1912	11·3	12·9	24·2	5·6	5·0	3·7	38·4	17·7	14·9	12·5	11·4	94·7
1913	11·8	12·7	24·5	5·8	5·4	3·9	39·5	20·3	19·8	15·7	13·6	108·9
1914	11·4	12·7	24·1	5·5	5·0	3·9	38·5	19·3	18·7	15·0	13·0	104·4
1915	10·9	12·5	23·4	5·7	5·0	3·7	37·7	18·6	18·2	16·0	15·2	105·8
1916	10·9	12·3	23·2	5·6	4·9	3·4	36·9	16·9	15·2	11·7	10·3	91·1
1917	11·0	12·4	23·4	5·6	4·8	3·4	37·1	16·9	15·0	11·6	10·6	91·1
1918	11·1	12·1	23·2	5·5	4·6	3 4	36·6	17·1	16·1	14·4	13·7	97·9
1919	12·2	13·7	25·9	6·1	4·9	3·6	40·4	16·4	14·4	11·8	10·3	93·2
1920	10·4	11·5	21·9	5·3	4·6	3·3	35·0	15·5	13·0	11·0	10·0	84·5
1921	10·8	11·6	22·4	5·4	4·5	3·0	35·2	14·7	13·7	9·7	7·8	81·2
1922	10·4	11·6	22·0	5·2	4·1	2·8	33·9	12·4	10·6	9·2	8·6	74·7
1923	10·2	10·9	21·1	4·6	3·6	2·6	31·9	11·4	10·0	8·3	7·6	69·2
1924	10·6	11·2	21·8	4·8	3·8	2·6	33·0	12·4	10·8	9·3	8·8	74·2
1925	10·1	11·1	21·2	4·7	3·7	2·7	32·3	12·5	11·2	9·4	9·0	74·5
1926	10·0	11·3	21·3	4·6	3·6	2·5	31·8	11·6	10·3	8·5	7·5	69·8
1927	10·5	11·6	22·1	4·3	3·4	2·5	32·2	10·6	9·5	8·3	7·8	68·5
1928	10·4	11·2	21·6	4·1	3·0	2·4	31·1	10·7	9·3	7 4	6·8	65·3
1929	10·4	11·9	22·2	4·6	3·3	2·6	32·8	11·5	10·6	9·8	9·2	73·9
1930	10·4	11·6	22·0	3·8	2·9	2·2	30·9	9·7	7·9	6·1	5·6	60·2
1931	10·4	11·7	22·1	4·0	3·1	2·4	31·5	10·8	9·2	7·6	6·6	65·7
1932	10·6	11·8	22·4	3·8	3·0	2·4	31·5	10·8	9·0	7·1	6·1	64·5
1933	11·0	11·8	22·9	4·0	3·1	2·2	32·1	9·8	8·6	6·5	5·7	62·7
1934	10·9	11·8	22·7	3·9	2·8	2·0	31·4	8·9	7·7	6·0	5·3	59·3
1935	10·7	11·3	22·0	3·7	2·7	2·0	30·4	9·1	7·7	5·5	4·3	57·0
1936	10·7	11·3	21·9	3·5	2·7	2·0	30·2	9·3	8·3	6·0	4·9	58·7
1937	10·8	11·2	22·0	3·5	2·5	1·8	29·7	9·4	8·3	5·9	4·4	57·7
1938	10·3	10·8	21·1	3·1	2·3	1·7	28·3	8·2	7·3	5·0	4·0	52 8
1939	10·3	10·9	21·2	3·2	2·2	1·7	28·3	7·9	7·0	4·4	2·9	50·6
1940	9·8	11·5	21·3	3·7	2·6	2·0	29·6	9·3	8·2	5·7	4·0	56·8
1941	10·1	10·6	20·7	3·6	2·6	2·1	29·0	11·3	9·7	5·8	4·3	60·0
1942	9·6	10·0	19·6	3·5	2·4	1·8	27·2	8·7	7·5	4·4	2·8	50·6
1943	9·1	9·2	18·3	3·1	2·2	1·6	25·2	8·8	7·8	4·5	2·8	49·1
1944	8·8	8·8	17·5	3·1	2·2	1·6	24·4	8·0	7·0	3·8	2·3	45·4
1945	9·0	9·0	18·0	3·1	2·0	1·7	24·8	8·2	7·0	3·8	2·3	46·0

(86504) B 3

Table XII (*contd*).—**Rates in terms of those of 1926–30 taken as 1,000.**

Year	Days		Weeks				Months					Total under one year
	0–1	1–7	0–1	1–2	2–3	3–4	Total under four weeks	Four weeks to 3 months	3–6	6–9	9–12	
1926–1930	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1931–1935	1,039	1,017	1,028	907	906	917	987	917	895	813	757	916
1936–1940	1,010	974	986	791	781	750	918	815	821	675	541	818
1941–1945	903	826	858	744	719	708	818	824	811	550	378	737
1931	1,010	1,017	1,014	930	969	1,000	991	1,000	968	950	892	972
1932	1,029	1,026	1,028	884	938	1,000	991	1,000	947	888	824	954
1933	1,068	1,026	1,050	930	969	917	1,009	907	905	812	770	927
1934	1,058	1,026	1,041	907	875	833	987	824	811	750	716	877
1935	1,039	983	1,009	860	844	833	956	843	811	688	581	843
1936	1,039	983	1,005	814	844	833	950	861	874	750	662	868
1937	1,049	974	1,009	814	781	750	934	870	874	738	595	854
1938	1,000	939	968	721	719	708	890	759	768	625	541	781
1939	1,000	948	972	744	688	708	890	731	737	550	392	749
1940	951	1,000	977	860	812	833	931	861	863	712	541	840
1941	981	922	950	837	812	875	912	1,046	1,021	725	581	888
1942	932	870	899	814	750	750	855	806	789	550	378	749
1943	883	800	839	721	688	667	792	815	821	562	378	726
1944	854	765	803	721	688	667	767	741	737	475	311	672
1945	874	783	826	721	625	708	780	759	737	475	311	680

Expressing the average 1944–45 rates in terms of average 1938–39 figures, the percentage decreases in six years were as follows :—

0–1 day	1–7 days	1–2 weeks	2–3 weeks	3–4 weeks	4 weeks–3 months	3–6 months	6–9 months	9–12 months
— 14	— 18	— 2	— 7	— 3	+ 1	— 2	— 19	— 33

The pronounced improvement in infant mortality, which occurred after 1942, was confined to two distinct age periods, the first week and the second half of the first year. The first probably resulted from the special attention devoted to pregnant women up to completion of maternity. Only slight improvement over 1938 rates has occurred at ages between one week and six months, but from six months onwards through the years of childhood (*see* Table XXVI) the fall in death-rates has been substantial.

The neonatal rate of 24½ per 1,000 live births attained in 1944 was bettered in that year by Australia with 22 and United States of America (white population) with 24. In 1941–44 New Zealand's rate reached the low level of 20. The idea which was prevalent a decade ago that neonatal mortality was never likely to be reduced as a national figure below about 20 per 1,000 births is no longer justifiable owing to advances in the treatment of immature infants and recent discoveries that hæmolytic diseases and some forms of congenital malformations may be preventable. There seems no reason to postulate an irreducible hard core of neonatal mortality, nor of infant mortality generally, and any attempt to set " targets " for these is unprofitable.

Table XIII shows the neonatal deaths in conjunction with stillbirths with which they are closely allied. Rates for each year since registration of stillbirths began are expressed per 1,000 total live and stillbirths and consequently these neonatal rates differ from those in Table XII. The combined rate fell progressively from 72·3 in 1933 to 65·3 in 1939, the stillbirth portion declining from 41·4 to 38·1, or by eight per cent., and the neonatal portion from 30·9 to 27·2, or by 12 per cent. in the six years. During the next six-year period to 1945 the stillbirth rate continued to fall, more rapidly than before, to 27·6 (28 per cent.), whilst the neonatal rate declined at a retarded pace to 24·2

(11 per cent.), bringing the combined rate to 51·8. The lowest level reached was 51·1 in 1944, in which year the comparable rate in New Zealand was 43·4.

Table XIII.—Numbers of Stillbirths and Neonatal Deaths and rates per 1,000 Live and Still Births, 1928 to 1945.

Year	Stillbirths		Neonatal deaths (aged 0–4 weeks)		Combined rate per 1,000 live and still-births
	Number	Rate	Number	Rate	
1928	27,580	40·1	20,513	29·8	69·9
1929	26,847	40·0	21,136	31·5	71·5
1930	27,577	40·8	20,060	29·7	70·5
1931	26,933	40·9	19,966	30·3	71·2
1932	26,471	41·3	19,388	30·3	71·6
1933	25,084	41·4	18,688	30·9	72·3
1934	25,209	40·5	18,711	30·0	70·5
1935	25,435	40·7	18,192	29·1	69·8
1936	25,045	39·7	18,254	29·0	68·7
1937	24,806	39·0	18,168	28·6	67·6
1938	24,729	38·3	17,572	27·2	65·5
1939*	24,320	38·1	17,401	27·2	65·3
1940	22,779	37·2	17,503	28·6	65·7
1941	20,876	34·8	16,746	27·9	62·7
1942	22,383	33·2	17,676	26·2	59·4
1943	21,262	30·1	17,251	24·4	54·6
1944	21,306	27·6	18,218	23·6	51·1
1945	19,333	27·6	16,910	24·2	51·8

* *Note.*—The births assigned to successive calendar years are the numbers registered up to 1938 inclusive and the numbers of occurrences from 1939.

Distribution of Infant Mortality.—Table XIV shows how infant mortality was distributed throughout the country in each year 1940 to 1945. For convenience in the interpretation of this and similar tables where the regional sub-division is used the counties comprising each region are given below.* For the constitution of Greater London, *see* pp. 63–65 of the Preliminary Report on the Census of England and Wales, 1931.

* Regional Summary.—The counties in the various regions are as follow :—

South East

Bedfordshire
Berkshire
Buckinghamshire
Essex
Hertfordshire
Kent
London
Middlesex
Oxfordshire
Southampton
Surrey
Sussex, East
Sussex, West
Wight, Isle of

South West

Cornwall
Devon
Dorsetshire
Wiltshire
Somersetshire

North I

Durham
Northumberland

North II

Cumberland
Westmorland
Yorkshire
East Riding
North Riding

North III

Yorkshire
West Riding
York C.B.

North IV

Cheshire
Lancashire

Midland I

Gloucestershire
Herefordshire
Shropshire
Staffordshire
Warwickshire
Worcestershire

Midland II

Derbyshire
Leicestershire
Northamptonshire
Nottinghamshire
Peterborough, Soke of

East

Cambridgeshire
Ely, Isle of
Huntingdonshire
Lincolnshire
Parts of Holland
Parts of Kesteven
Parts of Lindsey
Norfolk
Rutlandshire
Suffolk, East
Suffolk, West

Wales I

Brecknockshire
Carmarthenshire
Glamorganshire
Monmouthshire

Wales II

Anglesey
Caernarvonshire
Cardiganshire
Denbighshire
Flintshire
Merionethshire
Montgomeryshire
Pembrokeshire
Radnorshire

(86504) B 4

During the war large numbers of expectant mothers were sent away from London and certain other dangerous areas for their maternities, and they remained in the reception areas for varying periods during which infant deaths occurred. As explained on page 5, every effort was made to obtain proper comparability between the places of registration of infant deaths on the one hand and of the births on the other, but the to and fro movement of the mothers and infants made it difficult to ensure that the statistical correspondence between the infant deaths and births assigned to an area was more than approximate. When comparing rates for London and the South East with those of other areas this should be borne in mind.

Table XIV.—Distribution of Infant Mortality, 1940 to 1945.

	Deaths per 1,000 related births									Mortality per cent. of that in England and Wales
	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	
	1940			1941			1942			1940–42
England and Wales	**64·3**	**48·8**	**56·8**	**67·5**	**52·2**	**60·0**	**56·5**	**44·3**	**50·6**	**100**
South East	53·8	40·4	47·3	54·0	41·2	47·7	49·2	37·6	43·5	83
Greater London	53·3	40·2	46·9	58·3	45·1	51·8	51·8	40·6	46·4	86
Remainder of South East	54·5	40·8	47·8	50·0	37·5	43·9	46·0	33·9	40·2	79
North	73·8	55·5	64·9	81·0	62·8	72·1	65·9	52·8	59·6	118
North I	74·0	58·0	66·2	88·1	72·8	80·7	73·1	55·1	64·3	126
North II	70·3	52·9	61·7	73·9	54·4	64·3	65·3	52·1	58·9	111
North III	65·7	49·9	58·1	71·0	54·1	62·8	58·8	46·8	53·0	104
North IV	79·0	58·2	68·8	85·5	65·9	75·9	67·3	55·5	61·6	123
Midland	66·5	49·3	58·1	66·1	52·9	59·7	54·3	43·0	48·8	99
Midland I	67·4	51·6	59·7	67·4	53·7	60·7	54·9	43·3	49·3	101
Midland II	64·5	44·5	54·8	63·6	51·3	57·6	52·9	42·4	47·8	96
East	54·2	44·7	49·7	51·8	42·8	47·4	51·8	37·9	45·1	85
South West	58·1	43·8	51·2	58·2	42·4	50·5	48·3	36·1	42·4	86
Wales	72·1	60·3	66·3	79·8	59·2	69·7	63·7	51·3	57·7	116
Wales I	71·7	60·1	66·0	82·7	58·2	70·7	62·8	53·1	58·1	117
Wales II	73·4	60·6	67·1	72·6	61·8	67·3	66·2	46·6	56·6	114
County boroughs*	74·9	56·7	66·0	82·4	64·2	73·5	66·7	52·2	59·6	119
Other urban districts*	63·4	48·6	56·2	63·8	49·2	56·7	53·6	43·5	48·7	97
Rural districts*	58·0	43·7	51·1	57·7	44·6	51·3	49·9	36·9	43·6	87
Greater London: Administrative County	56·9	40·5	48·9	64·1	51·7	58·1	56·5	45·5	51·2	93
Greater London: Outer Ring	50·8	40·0	45·6	55·2	41·6	48·6	49·2	37·9	43·7	82
	1943			1944			1945			1943–45
England and Wales	**54·7**	**43·2**	**49·1**	**50·4**	**40·1**	**45·4**	**51·4**	**40·3**	**46·0**	**100**
South East	46·5	36·5	41·6	46·6	36·0	41·5	43·7	34·0	39·0	87
Greater London	50·1	38·2	44·4	47·3	37·4	42·5	43·8	33·5	38·8	89
Remainder of South East	41·9	34·3	38·2	45·9	34·5	40·3	43·7	34·5	39·2	84
North	65·5	51·2	58·6	57·0	44·5	50·9	60·0	47·1	53·7	116
North I	71·8	59·5	65·8	64·6	49·7	57·4	57·6	46·1	52·0	124
North II	63·5	49·4	56·7	58·5	42·5	50·8	62·4	48·0	55·4	116
North III	57·2	45·1	51·3	52·0	39·6	46·0	58·4	44·7	51·7	106
North IV	68·3	52·1	60·5	56·8	45·7	51·4	61·4	48·6	55·2	119
Midland	53·9	43·8	49·0	48·3	40·0	44·3	50·5	39·9	45·4	99
Midland I	54·2	44·4	49·5	48·5	39·5	44·1	51·1	40·4	45·9	99
Midland II	53·2	42·4	48·0	48·1	41·0	44·6	49·4	38·8	44·3	97
East	48·0	36·4	42·4	44·8	35·7	40·4	43·2	33·7	38·6	86
South West	45·1	34·8	40·1	42·0	36·9	39·5	46·3	36·5	41·5	86
Wales	56·6	46·2	51·5	53·6	44·2	49·0	60·7	47·2	54·1	110
Wales I	57·9	46·9	52·6	52·9	44·4	48·7	61·5	48·8	55·3	111
Wales II	53·0	44·4	48·8	55·8	43·6	49·9	58·5	42·9	50·8	106
County boroughs*	63·9	50·7	57·5	54·9	44·4	49·8	59·7	47·1	53·6	114
Other urban districts*	53·1	42·3	47·9	50·5	39·6	45·3	51·0	39·9	45·6	99
Rural districts*	46·7	37·2	42·1	45·5	36·1	41·0	45·0	35·5	40·4	88
Greater London: Administrative County	57·4	44·2	51·0	56·3	46·3	51·5	48·8	36·7	42·9	103
Greater London: Outer Ring	45·8	34·7	40·4	42·1	32·3	37·4	40·5	31·4	36·1	81

* Excluding Greater London.

Regional infant mortality rates have also been corrected for changing birth-rate and time-lag in registration, as already explained, by assuming the effects of these to be uniform over England and Wales.

Comparison between the regions during the 15 years from 1931 to 1945 shows that the South East, excluding Greater London, South West and East, which at the beginning of the period had infant mortality rates very much below the national rates, have been gradually losing that advantage and in 1943–45 it was reduced to about 15 per cent. The Midland region, which had an excess of one per cent., showed during the war a slight relative improvement to one per cent. below the national rate. Wales registered ten per cent. excess in 1943–45 as in 1931–36, and the North maintained its excess of about 17 per cent. The dispersion of regional rates therefore diminished from 73–119 in 1931–33 to 84–116 in 1943–45. The three-year averages are shown below :—

Infant Mortality per cent. of National rate (3-year averages)

	South East excluding Greater London	South West	East	Midland	Wales	North
1931–33	73	79	83	102	111	119
1934–36	75	80	81	101	109	116
1937–39	76	85	84	100	112	116
1940–42	79	86	85	99	116	118
1943–45	84	86	86	99	110	116

It was to be expected that owing to direct and indirect effects of enemy action upon many of them, the county boroughs in aggregate would register unfavourable rates during 1940–41, and this accounts for the excess of 19 per cent. over the national rate during the period 1940–42, compared with 14 per cent. in 1938, 1939 and again in 1943–45. For Greater London, however, the following proportions of the national rate reveal no specially unfavourable effects of the war :—1931–33, 87 per cent. ; 1934–36, 95 ; 1937–39, 91 ; 1940–42, 86 ; 1943–45, 89. Rural districts in 1937–39 registered rates about ten per cent. below England and Wales, and in 1940–42 this advantage was enhanced to 13 per cent. and in 1943–45 to 12 per cent.

Greater London's infant mortality rate was 50 in 1938 and fell to a more satisfactory level of 43½ in 1939, which was 86 per cent. of that for England and Wales as a whole. In the first three years of war the rates were 47, 52 and 46, maintaining the same proportion of 86 per cent. of the national rate despite the severe trials through which the area went. In 1943–45 the rates fell to 44½, 42½ and 39 ; and it was a noteworthy achievement to better the rate for 1939 under the conditions produced by long continued aerial bombardment of the whole district during part of 1944–45. Comparison with some other large cities in 1944 shows that Greater London has now considerable leeway to make up before it can compete with the principal American cities :—New York (white) 29 ; Chicago (white) 28 ; San Francisco 31 ; Washington (white) 33.

Table XV differs from the corresponding table (XII) in the Review for 1938–39 in that infant mortality rates from 1915 onwards are based on related births instead of the births registered during the year in which the deaths occurred, and are therefore free from the effects of changing birth-rate and time lag in registration. Between 1911 and 1939 the excess of infant mortality in county

boroughs over that in rural districts decreased from 39 per cent. to 26 per cent. During the war the county borough rate was most affected by war conditions and evacuation movements, whereas the rural district rate improved steadily after 1941, with the result that the difference between them fluctuated between 45 per cent. in 1940 and 22 per cent. in 1944.

Table XV.—Infant Mortality rates in London and in Urban and Rural Aggregates and percentage excess in the County Boroughs compared with the Rural Districts 1911–14, 1931–45 and each year 1936 to 1945.

Year	England and Wales	London Admin. County	County Boroughs*	Other Urban Districts*	Rural Districts*	Per Cent. Excess in County Boroughs over Rural Districts
1936 ...	59	66	66	55	53	+25
1937 ...	58	60	66	55	50	+32
1938 ...	53	58	60	50	47	+28
1939 ...	51	48	58	49	47	+23
1940 ...	57	49	66	56	51	+29
1941 ...	60	58	74	57	51	+45
1942 ...	51	51	60	49	44	+36
1943 ...	49	51	57	48	42	+36
1944 ...	45	51	50	45	41	+22
1945 ...	46	43	54	46	40	+35
Average Rates						
1911–1914†	110	108	125	107	90	+39
1931–1935	62	63	71	60	55	+29
1936–1939	55	58	63	52	50	+26
1940–1942	56	52	66	54	49	+35
1943–1945	47	48	54	46	41	+32

* Outside Greater London.
† 1911–1914 based on registered births. All other rates based on related births.

Tables XVI and XVII show that the trends of rates between 1926 and 1945 differed considerably according to the class of area and period of life in which death occurred. The percentage changes in rates during two periods (*a*) from 1926–30 to 1936–39 ($9\frac{1}{2}$ years), and (*b*) from 1936–39 to 1943–45 ($6\frac{1}{2}$ years) are shown below.

Age	Greater London		County Boroughs		Other Urban Districts		Rural Districts	
	(*a*)	(*b*)	(*a*)	(*b*)	(*a*)	(*b*)	(*a*)	(*b*)
Neonatal	− 7	− 5	− 8	−16	−11	−16	− 7	−20
4 weeks–3 months.	−11	−18	−21	+ 1	−24	+ 3	−21	−10
3–6 months	−10	−26	−21	− 3	−26	+ 6	−23	0
6–9 months	−26	−40	−35	−25	−41	−15	−38	−14
9–12 months	−43	−44	−50	−43	−50	−34	−38	−35
Under 1 year	−15	−18	−21	−15	−22	−12	−17	−17

Table XVI.—Infant Mortality rates at various stages of Infancy in different classes of Area, 1926–45.

Year	Greater London	County* Boroughs	Other Urban* Districts	Rural* Districts	Greater London	County* Boroughs	Other Urban* Districts	Rural* Districts	Greater London	County* Boroughs	Other Urban* Districts	Rural* Districts
	Under 4 weeks				4 weeks to 3 months				3–6 months			
1926–1930	25·21	34·35	33·37	31·84	9·68	12·87	10·40	9·36	9·81	12·01	8·55	7·02
1931–1935	25·42	33·80	32·69	31·41	9·49	11·73	9·13	8·31	9·34	10·40	7·22	6·01
1936–1939	23·57	31·55	29·86	29·62	8·59	10·20	7·88	7·41	8·85	9·49	6·37	5·44
1940–1942	25·49	30·94	28·60	27·31	7·98	12·36	9·06	7·95	7·45	11·27	7·66	6·10
1943–1945	22·44	26·35	25·10	23·66	7·01	10·26	8·11	6·65	6·55	9·20	6·77	5·46
	6–9 months				9–12 months				Total under 1 year			
1926–1930	8·06	10·11	7·69	5·97	7·09	9·75	7·08	5·42	59·85	79·09	67·09	59·61
1931–1935	6·53	8·25	5·75	4·80	5·25	7·21	5·05	4·18	56·03	71·39	59·84	54·71
1936–1939	5·99	6·58	4·56	3·69	4·06	4·88	3·57	3·34	51·06	62·70	52·24	49·50
1940–1942	4·37	6·89	4·91	4·07	2·78	4·78	3·54	3·14	48·07	66·24	53·77	48·57
1943–1945	3·57	4·91	3·87	3·19	2·28	2·79	2·35	2·18	41·85	53·50	46·20	41·13

* Excluding Greater London.

Table XVII.—Infant Mortality at various stages of Infancy in different classes of Area, 1931–45, in terms of the corresponding rate in 1926–30 taken as 1,000.

Year	Greater London	County* Boroughs	Other Urban* Districts	Rural* Districts	Greater London	County* Boroughs	Other Urban* Districts	Rural* Districts	Greater London	County* Boroughs	Other Urban* Districts	Rural* Districts
	Under 4 weeks				4 weeks to 3 months				3–6 months			
1926–1930	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1931–1935	1,008	984	980	986	980	911	878	888	952	866	844	856
1936–1939	935	918	895	930	887	793	758	792	902	790	745	775
1940–1942	1,011	901	857	858	824	960	871	849	759	938	896	869
1943–1945	890	767	752	743	724	797	780	710	668	766	792	778
	6–9 months				9–12 months				Total under 1 year			
1926–1930	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1931–1935	810	816	748	804	740	739	713	771	936	903	892	918
1936–1939	743	651	593	618	573	501	504	616	853	793	779	830
1940–1942	542	682	638	682	392	490	500	579	803	838	801	815
1943–1945	443	486	503	534	322	286	332	402	699	677	689	690

* Excluding Greater London.

Table XVIIIa.—Infant Mortality at various Ages, 1940. Rates per 1,000 Related Live Births.

		Total under 1 year	Under 30 minutes	30 minutes and under 1 day	Total under 1 day	Days						1 day and under 1 week	Weeks				Total under 4 weeks	4 weeks to 3 months	Months		
						1	2	3	4	5	6		0–	1–	2–	3–			3–6	6–9	9–12
England and Wales																					
All Infants	**M.**	**64·3**	**1·3**	**9·5**	**10·8**	**4·1**	**3·6**	**2·6**	**1·5**	**1·0**	**0·7**	**13·5**	**24·3**	**3 9**	**2·8**	**2·2**	**33·2**	**10·7**	**9 6**	**6·3**	**4·4**
	F.	**48·8**	**1·3**	**7·4**	**8·7**	**2·9**	**2·3**	**1·6**	**1·2**	**0·8**	**0·7**	**9·5**	**18·2**	**3·5**	**2·3**	**1·8**	**25·8**	**7·7**	**6·7**	**5·0**	**3·6**
	P.	**56·8**	**1·3**	**8·5**	**9·8**	**3·5**	**2·9**	**2·1**	**1·4**	**0·9**	**0·7**	**11·5**	**21·3**	**3·7**	**2·6**	**2·0**	**29·6**	**9·3**	**8·2**	**5·7**	**4·0**
Legitimate	M.	63·0	1·1	9·3	10·4	4·0	3·6	2·5	1·5	1·0	0·7	13·3	23·8	3·8	2·8	2·1	32·5	10·4	9·4	6·3	4·4
	F.	47·8	1·1	7·3	8·4	2·9	2·2	1·6	1·2	0·8	0·7	9·4	17·9	3·4	2·3	1·7	25·3	7·5	6·6	4·9	3·6
	P.	55·6	1·1	8·3	9·5	3·5	2·9	2·1	1·3	0·9	0·7	11·4	20·9	3·6	2·5	1·9	29·0	9·0	8·0	5·6	4·0
Illegitimate	M.	93·2	6·0	13·4	19·4	4·8	3·6	3·4	2·2	1·4	0·8	16·1	35·5	6·0	4·1	3·7	49·3	17·5	15·5	7·3	3·6
	F.	70·8	6·1	9·0	15·1	4·2	2·3	1·5	2·2	0·8	0·3	11·3	26·5	5·5	3·8	2·6	38·3	12·7	9·6	6·1	4·0
	P.	82·4	6·1	11·3	17·3	4·5	3·0	2·5	2·2	1·1	0·5	13·8	31·1	5·7	3·9	3·2	44·0	15·2	12·6	6·7	3·8
South East		47·3	1·2	7·5	8·8	2·9	2·4	1·8	1·2	0·9	0·6	9·8	18·6	3·2	2·1	1·8	25·8	7·3	6·7	4·5	3·0
Greater London		46·9	1·4	7·4	8·8	3·0	2·3	1·8	1·0	0·9	0·5	9·5	18·3	2·8	2·1	1·8	25·0	7·6	7·1	4·5	2·7
Remainder of South East ...		47·8	1·1	7·7	8·8	2·9	2·5	2·0	1·3	1·0	0·6	10·3	19·0	3·7	2·2	1·8	26·7	7·0	6·3	4·5	3·3
North		64·9	1·4	9·3	10·6	3·8	3·3	2·3	1·4	1·0	0·7	12·5	23·2	3·9	3·1	2·2	32·4	11·0	10·1	6·7	4·7
North I		66·2	1·6	9·3	10·9	4·5	3·9	2·8	1·5	0·7	0·6	13·9	24·9	4·3	3·1	2·1	34·4	10·2	10·2	7·0	4·4
North II		61·7	0·8	8·7	9·6	2·8	3·0	2·6	1·7	1·2	0·7	12·1	21·7	3·5	2·6	2·3	30·0	10·6	10·3	6·5	4·3
North III		58·1	1·5	9·2	10·7	3·7	2·9	2·2	1·5	0·8	0·7	11·8	22·5	3·8	2·6	2·1	31·1	9·4	8·1	5·6	3·9
North IV		68·8	1·3	9·4	10·7	3·8	3·3	2·1	1·2	1·2	0·8	12·5	23·2	4·0	3·4	2·2	32·8	12·4	11·0	7·3	5·3
Midland		58·1	1·3	8·6	9·9	3·8	3·0	2·1	1·4	0·9	0·7	11·9	21·8	3·9	2·8	2·0	30·5	9·1	8·3	5·8	4·4
Midland I		59·7	1·4	9·0	10·4	3·9	2·7	2·2	1·3	0·9	0·7	11·7	22·1	3·8	3·0	2·0	30·9	10·1	8·6	5·6	4·5
Midland II		54·8	1·1	7·8	9·0	3·6	3·5	1·9	1·7	0·8	0·7	12·3	21·2	4·0	2·3	2·0	29·6	7·1	7·7	6·2	4·2
East		49·7	1·5	8·3	9·9	2·8	2·5	2·0	1·4	1·1	0·7	10·4	20·2	3·6	2·0	1·3	27·1	8·1	6·6	4·4	3·5
South West		51·2	1·3	7·7	9·0	3·3	2·9	1·6	1·8	1·0	0·8	11·4	20·4	3·6	2·3	1·9	28·3	8·7	5·9	4·4	3·9
Wales		66·3	1·4	9·3	10·7	4·6	3·6	2·8	1·7	0·9	0·9	14·5	25·2	4·5	2·5	2·2	34·4	10·9	8·8	7·5	4·7
Wales I		66·0	1·3	9·7	11·0	4·6	3·4	2·8	1·6	0·9	1·0	14·4	25·4	4·5	2·6	2·2	34·7	10·8	8·7	7·1	4·7
Wales II		67·1	1·4	8·4	9·8	4·7	4·3	2·6	2·0	0·8	0·6	14·8	24·6	4·6	2·3	2·0	33·5	11·4	8·8	8·7	4·7
County boroughs*		66·0	1·2	8·9	10·2	3·7	3·0	2·0	1·3	1·0	0·8	11·7	21·8	4·0	3·3	2·2	31·4	11·7	10·7	7·1	5·1
Urban districts*		56·2	1·4	8·4	9·8	3·7	3·2	2·4	1·5	0·9	0·8	12·4	22·2	3·9	2·4	2·0	30·6	8·7	7·6	5·4	3·9
Rural districts*		51·1	1·3	8·8	10·1	3·4	2·9	2·1	1·7	1·0	0·6	11·7	21·8	3·5	2·1	1·8	29·2	7·7	6·0	4·7	3·5

* Excluding Greater London.

Table XVIIIb.—Infant Mortality at various Ages, 1941. Rates per 1,000 Related Live Births.

		Total under 1 year	Under 30 minutes	30 minutes and under 1 day	Total under 1 day	Days						1 day and under 1 week	Weeks				Total under 4 weeks	4 weeks to 3 months	Months		
						1	2	3	4	5	6		0–	1–	2–	3–			3–6	6–9	9–12
England and Wales																					
All Infants	**M.**	**67·5**	**1·5**	**9·6**	**11·0**	**3·8**	**3·1**	**2·4**	**1·4**	**1·0**	**0·8**	**12·5**	**23·5**	**3·8**	**2·9**	**2·4**	**32·6**	**13·2**	**10·7**	**6·4**	**4·6**
	F.	**52·2**	**1·5**	**7·5**	**9·0**	**2·8**	**2·0**	**1·5**	**1·0**	**0·8**	**0·7**	**8·7**	**17·7**	**3·3**	**2·3**	**1·8**	**25·2**	**9·3**	**8·6**	**5·2**	**4·1**
	P.	**60·0**	**1·5**	**8·6**	**10·1**	**3·3**	**2·6**	**1·9**	**1·2**	**0·9**	**0·7**	**10·6**	**20·7**	**3·6**	**2·6**	**2·1**	**29·0**	**11·3**	**9·7**	**5·8**	**4·3**
Legitimate	M.	66·1	1·2	9·4	10·6	3·8	3·1	2·4	1·4	1·0	0·8	12·4	23·0	3·7	2·9	2·4	31·9	12·8	10·5	6·3	4·6
	F.	51·2	1·2	7·3	8·5	2·7	2·0	1·5	1·0	0·8	0·7	8·7	17·2	3·2	2·3	1·8	24·5	9·0	8·4	5·2	4·1
	P.	58·8	1·2	8·4	9·6	3·3	2·6	1·9	1·2	0·9	0·7	10·6	20·2	3·5	2·6	2·1	28·3	10·9	9·4	5·8	4·3
Illegitimate	M.	93·2	6·2	13·2	19·4	4·1	3·9	2·1	1·3	1·3	1·2	13·8	33·2	5·3	4·1	3·1	45·7	21·5	14·8	6·6	4·5
	F.	70·8	6·1	11·7	17·8	3·4	1·4	1·5	0·8	0·6	0·7	8·4	26·3	4·5	2·7	2·7	36·2	13·3	13·0	4·5	4·0
	P.	82·3	6·2	12·5	18·6	3·7	2·7	1·8	1·0	0·9	0·9	11·2	29·8	4·9	3·4	2·9	41·0	17·5	13·9	5·6	4·3
South East		47·7	1·5	8·1	9·6	2·8	2·2	1·6	1·1	0·7	0·6	8·9	18·6	2·7	2·2	1·8	25·2	8·4	6·9	4·2	3·1
Greater London		51·8	1·9	8·7	10·6	3·0	2·3	1·5	0·9	0·8	0·7	9·2	19·7	2·7	2·4	2·0	26·9	8·8	8·2	4·6	3·4
Remainder of South East ...		43·9	1·2	7·5	8·7	2·6	2·1	1·6	1·2	0·7	0·5	8·7	17·4	2·8	1·9	1·5	23·7	8·0	5·6	3·8	2·8
North		72·1	1·5	9·0	10·5	3·6	2·7	2·2	1·4	1·1	1·0	12·0	22·5	4·1	3·1	2·5	32·2	14·1	13·0	7·3	5·4
North I		80·7	1·3	9·8	11·1	3·8	3·2	2·6	1·3	1·2	0·8	12·9	24·0	5·0	3·9	2·9	35·8	15·2	14·9	8·5	6·2
North II		64·3	1·6	8·2	9·9	4·0	3·0	1·7	1·7	0·9	1·1	12·5	22·3	3·8	2·5	1·7	30·4	12·0	9·6	7·3	5·0
North III		62·8	1·1	9·0	10·1	3·6	2·6	2·1	1·3	1·1	1·2	11·8	21·9	3·9	2·9	2·5	31·2	11·3	10·7	5·5	4·1
North IV		75·9	1·7	8·9	10·6	3·5	2·6	2·2	1·4	1·1	0·9	11·7	22·3	4·0	3·1	2·5	31·8	15·7	14·4	7·9	6·0
Midland		59·7	1·4	8·7	10·1	3·6	2·5	1·8	1·1	0·9	0·8	10·7	20·8	3·7	2·6	2·0	29·2	11·2	9·2	5·8	4·4
Midland I		60·7	1·5	8·6	10·2	3·9	2·5	1·8	1·1	0·9	0·7	10·9	21·1	3·9	2·6	2·0	29·6	11·1	9·6	5·9	4·6
Midland II		57·6	1·3	8·9	10·1	3·0	2·5	1·8	1·2	0·9	0·9	10·1	20·3	3·5	2·4	2·0	28·3	11·4	8·3	5·5	4·1
East		47·4	1·5	8·4	9·9	2·4	2·5	1·7	1·0	0·8	0·6	9·0	18·9	3·2	1·6	1·7	25·4	8·5	6·4	4·1	3·1
South West		50·5	1·7	6·9	8 5	3 0	2·7	2·4	1·0	0·7	0·5	10·3	18·8	3·3	2·0	1·8	26·0	9·1	7·2	4·7	3·6
Wales		69·7	1·3	9·6	10·8	3·9	3·3	2·2	1·4	1·1	0·6	12·4	23·2	4·0	3·3	2·8	33·3	13·5	10·6	7·0	5·3
Wales I		70·7	1·3	9·3	10·6	3·9	3·0	2·2	1·3	1·1	0·5	12·1	22·7	4·2	3·4	2·9	33·2	13·9	11·1	7·0	5·6
Wales II		67·3	1·1	10·1	11·2	3·8	3·9	2·4	1·6	1·1	0·6	13·3	24·6	3·5	2·9	2·7	33·7	12·7	9·3	7·1	4·6
County boroughs*		73·5	1·5	9·4	10·9	3·5	2·7	1·9	1·3	1·1	0·8	11·3	22·1	3·8	3·0	2·4	31·4	14·9	13·7	7·9	5·7
Other urban districts*		56·7	1·4	8·3	9·6	3·5	2·6	2·1	1·2	0·8	0·7	10·9	20·5	3·8	2·4	2·0	28·7	10·3	8·4	5·2	4·1
Rural districts*		51·3	1·4	7·8	9·2	3·0	2·4	2·0	1·3	0·9	0·8	10·3	19·5	3·5	2·5	2·0	27·5	9·2	6·8	4·4	3·5

* Excluding Greater London.

Table XVIIIc.—Infant Mortality at various Ages, 1942. Rates per 1,000 Related Live Births.

		Total under 1 year	Under 30 minutes	30 minutes and under 1 day	Total under 1 day	Days						1 day and under 1 week	Weeks				Total under 4 weeks	4 weeks to 3 months	Months		
						1	2	3	4	5	6		0–	1–	2–	3–			3–6	6–9	9–12
England and Wales																					
All Infants	**M.**	**56·5**	**1·4**	**9·3**	**10·7**	**3·5**	**2·8**	**2·2**	**1·2**	**0·9**	**0·8**	**11·3**	**22·0**	**3·6**	**2·8**	**2·0**	**30·3**	**10·1**	**8·4**	**4·8**	**3·0**
	F.	**44·3**	**1·3**	**7·1**	**8·4**	**2·6**	**2·2**	**1·4**	**1·0**	**0·8**	**0·6**	**8·6**	**17·0**	**3·3**	**2·0**	**1·6**	**23·9**	**7·2**	**6·7**	**4·0**	**2·6**
	P.	**50·6**	**1·4**	**8·2**	**9·6**	**3·1**	**2·5**	**1·8**	**1·1**	**0·8**	**0·7**	**10·0**	**19·6**	**3·5**	**2·4**	**1·8**	**27·2**	**8·7**	**7·5**	**4·4**	**2·8**
Legitimate	M.	55·0	1·1	9·0	10·2	3·4	2·8	2·1	1·2	0·9	0·8	11·1	21·3	3·5	2·7	1·9	29·4	9·7	8·1	4·7	3·0
	F.	43·1	1·1	7·0	8·0	2·5	2·2	1·4	0·9	0·8	0·6	8·4	16·4	3·3	2·0	1·6	23·3	6·9	6·4	3·9	2·6
	P.	49·2	1·1	8·0	9·1	3·0	2·5	1·7	1·1	0·8	0·7	9·8	18·9	3·4	2·3	1·7	26·4	8·3	7·3	4·3	2·8
Illegitimate	M.	83·2	5·5	13·3	18·8	4·3	4·2	2·7	1·4	0·9	0·7	14·1	33·0	5·8	4·2	2·9	45·8	16·5	12·2	5·9	2·8
	F.	66·2	5·6	9·4	15·0	3·8	2·5	2·2	1·4	1·1	1·0	11·9	26·9	4·1	2·7	1·7	35·4	12·7	11·1	4·6	2·5
	P.	75·0	5·6	11·4	17·0	4·0	3·3	2·5	1·4	1·0	0·8	13·1	30·0	4·9	3·5	2·3	40·7	14·6	11·7	5·3	2·6
South East		43·5	1·3	7·8	9·1	2·7	2·2	1·6	0·9	0·7	0·6	8·8	17·9	2·7	1·9	1·6	24·2	7·1	6·4	3·7	2·2
Greater London		46·4	1·4	8·2	9·7	2·7	2·3	1·6	0·9	0·7	0·6	9·0	18·6	2·6	1·9	1·8	24·9	7·8	7·2	4·1	2·4
Remainder of South East ...		40·2	1·1	7·3	8·4	2·8	1·9	1·7	0·9	0·7	0·6	8·6	17·0	2·9	1·9	1·4	23·2	6·4	5·4	3·2	1·9
North		59·6	1·4	8·7	10·1	3·2	2·7	1·9	1·3	1·0	0·8	10·9	21·0	4·1	3·0	2·1	30·2	10·8	9·7	5·4	3·5
North I		64·3	1·6	8·3	9·9	3·6	2·7	2·4	1·4	1·1	0·8	12·1	22·0	3·7	3·5	2·2	31·4	11·2	11·7	6·5	3·4
North II		58·9	0·8	9·0	9·9	2·6	2·8	2·4	1·3	0·8	0·5	10·4	20·3	5·2	2·7	1·7	30·0	10·3	9·7	5·2	3·7
North III		53·0	1·3	9·1	10·4	3·2	2·7	1·7	1·4	0·9	0·7	10·5	20·9	3·9	2·2	1·7	28·7	8·7	7·6	4·7	3·3
North IV		61·6	1·5	8·5	10·0	3·2	2·8	1·8	1·2	0·9	0·9	10·8	20·8	4·2	3·3	2·3	30·6	11·9	10·1	5·5	3·6
Midland		48·8	1·4	8·5	9·9	3·0	2·3	1·7	0·9	0·8	0·6	9·4	19·3	3·5	2·4	1·7	26·9	8·0	6·5	4·3	3·1
Midland I		49·3	1·4	8·7	10·1	3·2	2·2	1·8	0·9	0·8	0·7	9·5	19·6	3·7	2·2	1·7	27·2	8·2	6·7	4·2	3·1
Midland II		47·8	1·4	8·1	9·5	2·7	2·6	1·7	0·9	0·8	0·6	9·3	18·8	3·3	2·8	1·5	26·3	7·6	6·3	4·6	2·9
East		45·1	1·1	8·1	9·2	2·8	2·9	2·0	1·1	0·9	0·7	10·4	19·6	3·2	1·9	1·3	26·0	7·5	5·9	3·5	2·2
South West		42·4	1·2	6·8	8·0	3·2	2·8	1·5	1·1	0·6	0·9	10·1	18·1	3·2	2·0	1·7	24·9	6·8	6·0	2·9	1·7
Wales		57·7	1·6	8·4	10·0	4·0	3·3	2·0	1·3	1·0	0·8	12·4	22·5	4·2	2·8	1·9	31·5	10·2	8·2	4·7	3·1
Wales I		58·1	1·6	8·3	10·0	4·2	3·3	1·9	1·3	1·2	0·8	12·9	22·8	4·4	2·7	1·8	31·7	10·3	8·4	4·8	2·9
Wales II		56·6	1·6	8·6	10·2	3·6	3·0	2·0	1·3	0·5	0·8	11·2	21·5	3·8	3·3	2·3	30·9	9·8	7·6	4·5	3·7
County boroughs*		59·6	1·4	8·8	10·2	3·3	2·6	1·8	1·2	1·0	0·8	10·7	20·9	4·3	2·9	2·0	30·1	10·7	9·6	5·6	3·5
Other urban districts*		48·7	1·4	7·9	9·3	3·1	2·6	1·8	1·1	0·7	0·7	10·0	19·3	3·4	2·4	1·7	26·8	8·2	6·9	4·1	2·6
Rural districts*		43·6	1·1	7·9	9·0	2·9	2·4	1·9	1·0	0·8	0·7	9·7	18·7	3·0	2·1	1·6	25·5	7·0	5·6	3·1	2·4

* Excluding Greater London,

Table XVIIId.—Infant Mortality at various Ages, 1943. Rates per 1,000 Related Live Births.

		Total under 1 year	Under 30 minutes	30 minutes and under 1 day	Total under 1 day	Days						1 day and under 1 week	Weeks				Total under 4 weeks	4 weeks to 3 months	Months		
						1	2	3	4	5	6		0–	1–	2–	3–			3–6	6–9	9–12
England and Wales																					
All Infants	**M.**	**54·7**	**1·3**	**8·7**	**10·0**	**3·3**	**2·8**	**1·9**	**1·1**	**0·8**	**0·7**	**10·5**	**20·4**	**3·2**	**2·4**	**1·9**	**27·9**	**10·0**	**8·9**	**5·0**	**2·9**
	F.	**43·2**	**1·2**	**7·0**	**8·2**	**2·5**	**1·9**	**1·2**	**0·9**	**0·7**	**0·6**	**7·9**	**16·1**	**2·9**	**2·0**	**1·4**	**22·4**	**7·5**	**6·6**	**4·0**	**2·7**
	P.	**49·1**	**1·3**	**7·8**	**9·1**	**2·9**	**2·4**	**1·6**	**1·0**	**0·8**	**0·6**	**9·2**	**18·3**	**3·1**	**2·2**	**1·6**	**25·2**	**8·8**	**7·8**	**4·5**	**2·8**
Legitimate	M.	53·1	1·1	8·6	9·6	3·2	2·7	1·9	1·0	0·8	0·7	10·4	20·0	3·1	2·3	1·8	27·2	9·5	8·6	4·9	2·9
	F.	41·8	0·9	6·7	7·7	2·5	1·9	1·2	0·9	0·7	0·6	7·7	15·3	2·9	2·0	1·4	21·6	7·1	6·5	4·0	2·7
	P.	47·6	1·0	7·7	8·7	2·8	2·3	1·6	0·9	0·8	0·6	9·0	17·7	3·0	2·2	1·6	24·5	8·3	7·6	4·5	2·8
Illegitimate	M.	78·0	4·5	10·3	14·8	4·2	3·3	1·9	1·3	0·8	0·7	12·1	26·9	4·7	3·4	2·8	37·7	17·7	14·3	5·6	2·8
	F.	64·2	5·9	10·2	16·1	3·7	2·8	1·4	1·2	1·1	1·0	11·1	27·2	3·4	2·6	1·7	34·8	13·3	9·2	4·2	2·6
	P.	71·4	5·1	10·3	15·4	3·9	3·1	1·6	1·2	0·9	0·8	11·6	27·0	4·0	3·0	2·3	36·3	15·6	11·9	4·9	2·7
South East		41·6	1·3	7·4	8·8	2·7	2·2	1·3	0·7	0·7	0·6	8·3	17·1	2·6	1·7	1·3	22·7	6·9	6·1	3·6	2·4
Greater London		44·4	1·4	7·4	8·8	2·8	2·0	1·3	0·8	0·7	0·6	8·1	16·9	2·7	1·8	1·5	23·0	7·5	7·2	4·0	2·6
Remainder of South East ...		38·2	1·2	7·4	8·7	2·7	2·3	1·4	0·6	0·7	0·7	8·5	17·2	2·4	1·5	1·1	22·3	6·0	4·8	2·9	2·2
North		58·6	1·1	8·0	9·2	3·1	2·7	1·7	1·1	0·8	0·6	10·1	19·2	3·4	2·7	2·0	27·4	11·3	10·6	5·8	3·5
North I		65·8	0·9	8·7	9·7	3·2	2·6	1·9	1·3	0·8	0·5	10·4	20·1	3·4	3·0	2·0	28·5	12·0	13·4	7·1	4·8
North II		56·7	1·0	8·8	9·8	3·7	2·6	1·7	1·1	0·8	0·4	10·3	20·2	3·1	2·1	1·9	27·4	10·0	9·2	5·5	4·5
North III		51·3	0·9	8·1	9·1	3·1	2·6	1·4	1·1	0·7	0·6	9·5	18·6	3·2	2·3	1·5	25·6	8·8	8·2	5·4	3·4
North IV		60·5	1·3	7·6	8·9	2·9	2·8	1·8	1·0	0·9	0·6	10·2	19·1	3·7	3·0	2·2	**28·0**	12·8	11·3	5·6	2·8
Midland		49·0	1·4	8·1	9·5	2·9	2·2	1·6	1·0	0·9	0·7	9·2	18·7	3·1	2·4	1·8	26·1	8·4	7·3	4·6	2·6
Midland I		49·5	1·5	7·8	9·2	2·9	2·2	1·6	0·9	0·9	0·6	9·2	18·4	3·0	2·4	1·7	25·6	8·9	7·6	4·9	2·5
Midland II		48·0	1·4	8·8	10·1	2·7	2·1	1·6	1·3	0·9	0·7	9·3	19·5	3·4	2·4	1·9	27·2	7·5	6·5	4·2	2·7
East		42·4	1·0	8·0	9·0	2·7	2·2	1·6	1·1	0·6	0·7	8·9	17·9	2·3	1·6	1·2	23·0	7·6	5·4	3·6	2·8
South West		40·1	1·1	8·2	9·3	2·8	2·1	1·0	1·0	0·7	0·5	8·2	17·4	2·9	1·9	1·2	23·4	6·9	5·5	2·3	2·0
Wales		51·5	1·3	7·8	9·1	3·1	2·4	2·3	1·0	0·7	1·0	10·5	19·6	3·8	2·4	1·5	27·3	9·3	7·6	4·5	2·8
Wales I		52·6	1·4	7·8	9·1	2·9	2·2	2·3	1·0	0·8	0·9	10·1	19·2	4·0	2·6	1·8	27·6	9·8	7·6	4·6	3·0
Wales II		48·8	1·0	7·9	8·9	3·6	2·9	2·2	1·2	0·5	1·4	11·8	20·6	3·4	1·8	0·9	26·7	8·0	7·5	4·4	2·2
County boroughs*		57·5	1·2	8·1	9·3	3·0	2·5	1·6	1·0	0·9	0·7	9·7	19·0	3·5	2·6	2·0	27·0	11·1	10·4	5·7	3·3
Other urban districts*		47·9	1·2	8·1	9·3	2·9	2·4	1·6	1·0	0·7	0·6	9·3	18·6	3·0	2·3	1·6	25·5	8·5	7·1	4·2	2·6
Rural districts*		42·1	1·3	7·5	8·8	2·9	2·4	1·6	0·9	0·8	0·6	9·3	18·1	2·8	1·8	1·3	24·0	6·6	5·6	3·4	2·5

* Excluding Greater London.

Table XVIIIe.—Infant Mortality at various Ages, 1944. Rates per 1,000 Related Live Births.

		Total under 1 year	Under 30 minutes	30 minutes and under 1 day	Total under 1 day	Days						1 day and under 1 week	Weeks				Total under 4 weeks	4 weeks to 3 months	Months		
						1	2	3	4	5	6		0–	1–	2–	3–			3–6	6–9	9–12
England and Wales																					
All Infants	**M.**	**50·4**	**1·2**	**8·3**	**9·5**	**3·1**	**2·5**	**1·7**	**1·1**	**0·8**	**0·6**	**9·8**	**19·4**	**3·4**	**2·4**	**1·9**	**27·0**	**9·3**	**7·7**	**4·1**	**2·3**
	F.	**40·1**	**1·2**	**6·7**	**7·9**	**2·5**	**1·9**	**1·3**	**0·7**	**0·7**	**0·6**	**7·6**	**15·5**	**2·8**	**2·0**	**1·2**	**21·5**	**6·7**	**6·2**	**3·5**	**2·2**
	P.	**45·4**	**1·2**	**7·6**	**8·8**	**2·8**	**2·2**	**1·5**	**0·9**	**0·8**	**0·6**	**8·8**	**17·5**	**3·1**	**2·2**	**1·6**	**24·4**	**8·0**	**7·0**	**3·8**	**2·3**
Legitimate	M.	48·6	1·0	8·2	9·2	3·1	2·4	1·6	1·1	0·8	0·6	9·6	18·9	3·3	2·3	1·8	26·2	8·7	7·4	4·0	2·3
	F.	38·4	0·9	6·5	7·4	2·4	1·8	1·2	0·7	0·7	0·6	7·4	14·8	2·7	1·9	1·2	20·6	6·2	6·0	3·5	2·2
	P.	43·7	1·0	7·4	8·3	2·7	2·1	1·4	0·9	0·7	0·6	8·6	16·9	3·0	2·1	1·5	23·5	7·5	6·7	3·8	2·3
Illegitimate	M.	74·3	3·5	10·2	13·6	3·6	3·2	2·0	1·6	1·1	0·8	12·2	25·8	4·4	3·7	2·9	36·8	17·7	11·9	5·3	2·7
	F.	62·2	4·7	9·6	14·3	3·7	2·4	1·5	1·0	0·9	0·7	10·1	24·4	4·2	3·3	2·1	34·0	13·2	9·0	4·1	1·9
	P.	68·5	4·1	9·9	14·0	3·6	2·8	1·7	1·3	1·0	0·8	11·2	25·2	4·3	3·5	2·5	35·5	15·5	10·5	4·7	2·3
South East		41·5	1·1	7·2	8·3	2·6	1·9	1·3	0·8	0·7	0·5	7·9	16·2	2·9	1·9	1·3	22·4	6·9	6·5	3·4	2·3
Greater London		42·5	1·2	7·2	8·4	2·6	1·9	1·2	0·8	0·6	0·6	7·7	16·1	2·9	2·0	1·2	22·1	7·1	7·0	3·7	2·5
Remainder of South East ...		40·3	1·0	7·2	8·3	2·6	1·9	1·4	0·9	0·8	0·5	8·1	16·3	2·9	1·9	1·5	22·7	6·7	5·9	3·1	2·1
North		50·9	1·3	7·5	8·7	3·1	2·7	1·6	1·0	0·9	0·7	9·9	18·6	3·6	2·8	1·7	26·8	9·4	8·0	4·5	2·4
North I		57·4	1·3	7·2	8·5	2·9	2·7	1·8	1·0	1·0	0·7	10·1	18·6	3·9	3·0	2·3	27·8	10·8	10·7	5·6	2·4
North II		50·8	1·2	7·5	8·6	3·3	3·5	1·3	0·7	1·0	0·4	10·2	18·8	3·5	2·4	1·7	26·5	8·9	8·2	4·7	2·4
North III		46·0	1·3	8·0	9·3	2·9	2·7	1·4	1·1	0·9	0·6	9·6	18·8	3·4	2·2	1·1	25·6	7·6	6·6	4·0	2·2
North IV		51·4	1·3	7·3	8·5	3·2	2·4	1·7	1·0	0·8	0·9	9·9	18·5	3·6	3·1	1·9	27·1	9·9	7·7	4·3	2·4
Midland		44·3	1·3	8·0	9·3	2·7	2·0	1·4	0·9	0·7	0·6	8·2	17·4	2·8	1·9	1·6	23·8	7·6	7·0	3·8	2·0
Midland I		44·1	1·3	7·9	9·2	2·8	2·0	1·4	1·0	0·7	0·7	8·4	17·6	2·8	2·0	1·7	24·1	7·6	6·8	3·6	2·0
Midland II		44·6	1·4	8·1	9·4	2·4	1·9	1·4	0·7	0·6	0·5	7·6	17·1	2·9	1·7	1·5	23·2	7·7	7·3	4·4	2·0
East		40·4	0·9	7·4	8·3	3·0	1·6	1·5	0·8	0·8	0·8	8·4	16·7	2·4	1·8	1·4	22·3	7·3	5·3	3·2	2·4
South West		39·5	1·1	7·6	8·7	2·3	2·0	1·6	0·9	0·7	0·4	7·8	16·6	2·8	1·6	1·3	22·3	7·8	4·9	2·7	1·8
Wales		49·0	1·0	8·5	9·5	3·5	2·6	1·7	1·2	0·8	0·5	10·3	19·8	3·2	2·0	1·8	26·7	8·7	7·2	4·0	2·4
Wales I		48·7	1·0	8·4	9·4	3·5	2·6	1·6	1·2	0·8	0·4	10·1	19·5	3·3	2·3	1·8	27·0	8·4	6·9	4·1	2·4
Wales II		49·9	1·1	8·6	9·7	3·3	2·3	2·1	1·3	0·7	0·9	10·7	20·4	2·8	1·3	1·5	26·0	9·8	8·0	3·6	2·5
County boroughs*		49·8	1·2	7·6	8·7	2·9	2·2	1·5	0·9	0·8	0·7	9·0	17·8	3·3	2·5	1·8	25·4	9·3	8·4	4·4	2·4
Other urban districts* ...		45·3	1·3	7·7	8·9	2·9	2·3	1·5	1·0	0·8	0·7	9·1	18·1	3·2	2·2	1·6	25·0	7·9	6·4	3·7	2·1
Rural districts*		41·0	1·1	7·6	8·7	2·7	2·2	1·6	0·9	0·7	0·5	8·6	17·3	2·8	1·8	1·5	23·3	6·9	5·6	3·1	2·0

* Excluding Greater Londdon.

Table XVIIIf.—Infant Mortality at various Ages, 1945. Rates per 1,000 Related Live Births.

		Total under 1 year	Under 30 minutes	30 minutes and under 1 day	Total under 1 day	Days						1 day and under 1 week	Weeks				Total under 4 weeks	4 weeks to 3 months	Months		
						1	2	3	4	5	6		0–	1–	2–	3–			3–6	6–9	9–12
England and Wales																					
All Infants	**M.**	**51·4**	**1·3**	**8·5**	**9·8**	**3·1**	**2·6**	**1·9**	**1·1**	**0·9**	**0·7**	**10·4**	**20·2**	**3·3**	**2·3**	**1·9**	**27·7**	**9·4**	**7·7**	**4·2**	**2·5**
	F.	**40·3**	**1·2**	**6·9**	**8·1**	**2·4**	**1·8**	**1·2**	**0·8**	**0·8**	**0·6**	**7·6**	**15·7**	**2·8**	**1·8**	**1·4**	**21·7**	**6·9**	**6·2**	**3·3**	**2·1**
	P.	**46·0**	**1·3**	**7·7**	**9·0**	**2·8**	**2·2**	**1·6**	**0·9**	**0·8**	**0·6**	**9·0**	**18·0**	**3·1**	**2·0**	**1·7**	**24·8**	**8·2**	**7·0**	**3·8**	**2·3**
Legitimate	M.	49·4	1·0	8·3	9·4	3·1	2·6	1·9	1·1	0·9	0·7	10·2	19·6	3·2	2·2	1·7	26·7	8·8	7·4	4·2	2·4
	F.	38·5	0·9	6·7	7·6	2·3	1·8	1·2	0·8	0·7	0·6	7·4	15·0	2·7	1·6	1·4	20·7	6·4	5·9	3·3	2·1
	P.	44·1	1·0	7·5	8·5	2·7	2·2	1·5	0·9	0·8	0·6	8·8	17·4	2·9	1·9	1·6	23·8	7·6	6·7	3·8	2·3
Illegitimate	M.	71·0	4·1	10·2	14·3	3·2	3·3	2·3	1·2	0·9	0·9	11·9	26·2	4·5	3·1	3·3	37·1	15·5	11·0	4·3	3·2
	F.	58·1	4·2	8·6	12·8	2·8	2·1	1·7	0·9	1·0	0·9	9·5	22·3	4·1	3·2	1·9	31·4	11·7	9·3	3·3	2·4
	P.	64·8	4·2	9·4	13·6	3·0	2·7	2·0	1·1	1·0	0·9	10·7	24·3	4·3	3·1	2·6	34·3	13·7	10·1	3·8	2·8
South East		39·0	1·1	7·3	8·3	2·7	2·0	1·5	0·8	0·8	0·5	8·3	16·7	2·5	1·6	1·4	22·2	6·4	5·4	3·0	2·0
Greater London		38·8	1·2	7·2	8·4	2·7	2·1	1·5	0·8	0·8	0·5	8·3	16·7	2·5	1·5	1·4	22·2	6·4	5·5	3·0	1·8
Remainder of South East ...		39·2	0·9	7·3	8·2	2·7	1·9	1·5	0·9	0·8	0·6	8·3	16·6	2·6	1·7	1·4	22·3	6·5	5·4	2·9	2·2
North		53·7	1·3	8·1	9·4	2·9	2·4	1·7	1·1	0·9	0·8	9·7	19·2	3·8	2·6	2·1	27·6	10·1	8·8	4·5	2·7
North I		52·0	1·2	9·2	10·5	2·8	2·3	1·6	0·8	0·7	0·9	9·2	19·7	3·1	2·2	1·7	26·7	9·1	9·2	4·7	2·4
North II		55·4	1·4	7·1	8·5	2·9	2·6	2·1	1·1	1·0	0·7	10·3	18·8	4·5	3·2	2·2	28·6	10·8	9·2	3·9	2·9
North III		51·7	1·1	7·7	8·8	2·9	2·5	1·5	1·0	0·9	0·8	9·8	18·6	4·3	2·1	1·8	26·9	9·3	8·2	4·5	2·9
North IV		55·2	1·5	8·2	9·6	2·8	2·3	1·7	1·2	1·0	0·7	9·7	19·3	3·5	2·9	2·4	28·1	10·8	9·0	4·6	2·7
Midland		45·4	1·5	7·7	9·2	2·6	2·2	1·6	0·9	0·9	0·6	8·8	18·0	2·8	1·9	1·3	24·0	8·0	7·0	4·1	2·3
Midland I		45·9	1·5	7·8	9·3	2·7	2·1	1·6	0·8	0·9	0·6	8·6	17·9	2·7	2·0	1·2	23·8	8·5	7·2	4·1	2·4
Midland II		44·3	1·5	7·6	9·1	2·4	2·4	1·7	1·0	1·0	0·7	9·1	18·2	2·9	1·8	1·3	24·2	6·9	6·7	4·3	2·2
East		38·6	0·9	7·6	8·6	2·6	2·0	1·6	0·9	0·5	0·8	8·4	16·9	2·7	1·2	1·3	22·0	6·3	5·4	3·0	1·9
South West		41·5	1·5	7·2	8·7	2·7	2·5	1·5	1·0	0·8	0·6	9·3	18·0	2·9	2·0	1·9	24·7	7·5	4·9	2·6	1·7
Wales		54·1	1·6	8·4	10·0	3·4	2·9	1·5	1·1	0·7	0·7	10·3	20·2	3·5	2·3	2·2	28·3	10·3	8·4	4·4	2·7
Wales I		55·3	1·6	8·4	9·9	3·3	2·8	1·7	1·0	0·7	0·6	10·2	20·1	3·7	2·5	2·4	28·8	10·5	8·8	4·8	2·5
Wales II		50·8	1·6	8·4	10·0	3·5	3·1	1·0	1·2	0·8	1·0	10·5	20·5	2·9	1·7	1·7	26·9	9·7	7·6	3·4	3·2
County boroughs*		53·6	1·4	8·1	9·5	2·8	2·3	1·7	1·0	0·8	0·7	9·2	18·7	3·5	2·5	2·0	26·7	10·5	9·0	4·7	2·7
Other urban districts*		45·6	1·3	7·8	9·0	2·8	2·3	1·5	1·1	0·8	0·6	9·1	18·2	3·1	2·0	1·6	24·8	7·9	6·9	3·7	2·3
Rural districts*		40·4	1·2	7·4	8·6	2·6	2·2	1·7	0·8	1·0	0·8	9·1	17·8	2·8	1·7	1·4	23·7	6·4	5·2	3·1	2·0

* Excluding Greater London.

In all classes of area and in both periods the relative fall in mortality has been greatest at 9–12 months of age, amounting during the war to over 40 per cent. in the large towns and 35 per cent. elsewhere. At 6–9 months, except in Greater London, the rate of fall in mortality was retarded in the second period ; and at 1–6 months there was little difference between 1943–45 and 1936–39 rates after temporary increases had occurred in the early years of the war. The neonatal rate declined much more rapidly after 1936–39 in areas outside Greater London than during the period preceding, and this rate improved by more than one quarter in those areas between 1926–30 and 1943–45.

Table 13 for each calendar year gives the infant deaths, and Table XVIII (a), (b), (c), (d), (e), (f) gives the corresponding infant mortality rates per 1,000 related births, at 15 age periods during the first year of life for each region and class of area. The trend of neonatal mortality in (A) the first 24 hours from birth, (B) the second to seventh days inclusive, and (C) the second to fourth weeks of life inclusive, in years 1938 to 1945 is shown below for the county boroughs, other urban districts and rural districts. For comparison, ratios (S) of stillbirths to each 1,000 live births are given in the first columns.

Year	County boroughs*				Other urban districts*				Rural districts*			
	S	A	B	C	S	A	B	C	S	A	B	C
1938	41·6	10·8	11·7	8·4	42·9	10·3	11·4	7·3	39·8	10·4	11·6	6·8
1939	41·7	10·8	11·4	8·0	41·9	10·1	11·1	7·2	38·8	10·6	11·8	6·6
1940	39·3	10·2	11·7	9·6	39·1	9·8	12·4	8·4	38·4	10·1	11·7	7·4
1941	37·3	10·9	11·3	9·3	37·7	9·6	10·9	8·2	35·4	9·2	10·3	8·0
1942	36·4	10·2	10·7	9·2	35·7	9·3	10·0	7·5	33·0	9·0	9·7	6·8
1943	31·8	9·3	9·7	8·0	33·2	9·3	9·3	6·9	30·5	8·8	9·3	5·9
1944	29·8	8·7	9·0	7·6	29·3	8·9	9·1	6·9	27·3	8·7	8·6	6·0
1945	29·6	9·5	9·2	8·0	29·5	9·0	9·1	6·6	28·5	8·6	9·1	5·9
Averages												
1938–40	40·9	10·6	11·6	8·7	41·3	10·1	11·6	7·6	39·0	10·4	11·7	6·9
1943–45	30·4	9·2	9·3	7·9	30·7	9·1	9·2	6·8	28·8	8·7	9·0	5·9

* Excluding Greater London.

The fall in stillbirth proportions since 1938 began to be pronounced in the towns in 1940, and in the rural districts a year later ; and it then continued without intermission until 1945 in each class of area. Mortality during the first day of life also improved steadily after 1939 in urban and rural districts, but this did not occur until later in the county boroughs. Mortality in the 2nd to 7th days of life began to fall in 1941 in each group and was continuous for five years. Mortality in the 2nd, 3rd and 4th weeks combined increased considerably in 1940 and 1941 in all the groups, but declined thereafter to lower levels than those of 1938 or 1939.

Comparing the average rates of 1938–40 and 1943–45 and adding together stillbirths and mortality during the first week, the rates for 1938–40 were 63·1 for county boroughs, 63·0 for urban districts and 61·1 for rural districts ; and in 1943–45 they were 48·9, 49·0 and 46·5 respectively. The rapidity of improvement was evidently not influenced to any appreciable extent by urbanisation of place of residence. In each class of area stillbirths showed the greatest relative decline and mortality at 1–4 weeks the smallest, with mortality in the first week intermediate.

Comparison between three large regions is shown below for stillbirths and for mortality in the periods of neonatal life, defined as before.

Year	North				Midland				South West			
	S	A	B	C	S	A	B	C	S	A	B	C
1938	44·1	10·9	12·7	8·8	39·5	10·7	11·0	7·4	41·0	11·5	10·5	6·3
1939	44·3	11·1	12·9	8·6	39·6	10·4	10·8	7·4	38·3	11·0	10·6	5·9
1940	41·7	10·6	12·5	9·2	37·1	9·9	11·9	8·7	37·5	9·0	11·4	7·9
1941	40·4	10·5	12·0	9·7	34·9	10·1	10·7	8·4	33·6	8·5	10·3	7·2
1942	38·1	10·1	10·9	9·2	34·5	9·9	9·4	7·6	33·1	8·0	10·1	6·8
1943	34·0	9·2	10·1	8·2	30·9	9·5	9·2	7·4	30·7	9·3	8·2	6·0
1944	31·3	8·7	9·9	8·2	26·9	9·3	8·2	6·4	27·3	8·7	7·8	5·7
1945	31·4	9·4	9·7	8·4	27·9	9·2	8·8	6·0	26·9	8·7	9·3	6·7
Averages												
1938–40	43·4	10·9	12·7	8·9	38·7	10·3	11·2	7·8	38·9	10·5	10·8	6·7
1943–45	32·2	9·1	9·9	8·3	28·6	9·3	8·7	6·6	28·3	8·9	8·4	6·1

The fall in stillbirth frequency began in 1939 in the South West and continued until 1945, whereas in the North and Midlands it began in 1940 and continued until 1944. First day mortality decreased in the South West from 1938 to 1942, but was rather higher in subsequent years, whereas in the North and Midland regions the fall occurred mainly between 1941 and 1944. Neonatal mortality excluding the first day, given by adding columns B and C, increased in all three regions in 1940 and then decreased continuously till 1944, with a subsequent setback in the South West in 1945.

The combined average rates for stillbirths and first week mortality in 1938–40 were 67·0 in the North, 60·2 in the Midlands and 60·2 in the South West. In 1943–45 they were 51·2, 46·6 and 44·3, the percentage improvements being 24, 23 and 26 respectively. In the South East region the stillbirth ratios averaged 32·3 and 25·8 in the two periods, and first week mortality averaged 18·0 and 16·7, so the combined figure decreased from 50·3 to 42·5 or by 16 per cent. only. In Wales the stillbirth ratio fell from 51·3 in 1938–40 to 35·8 in 1943–45 and first week mortality from 24·4 to 19·9, so the combined rate fell from 75·7 to 55·7 or by 26 per cent. as in the South West. Improvement in this combined rate was evidently greatest in the South West and Wales, and least in the South East. Mortality in the 2nd, 3rd and 4th weeks changed little in the South East, averaging 6·0 in 1938–40 and 5·7 in 1943–45 ; and in Wales it improved from 8·7 to 7·6.

Neonatal mortality rates per 100,000 births during three periods 1936–39, 1940–42 and 1943–45 are shown for the seven large regions in Table XXII. For the last two periods the rates are expressed also as percentages of the national rate ; in 1940–42 the range was from 86 to 116, and in 1943–45 from 90 to 111.

Comparison between the trends of infant mortality at ages between four weeks and one year in different regions is made in the table below.

Year	North				Midland				South East			
	4 wks.–3 mths.	3–6 mths.	6–9 mths.	9–12 mths.	4 wks.–3 mths.	3–6 mths.	6–9 mths.	9–12 mths.	4 wks.–3 mths.	3–6 mths.	6–9 mths.	9–12 mths.
1938	9·3	8·3	5·7	4·6	8·2	6·5	4·9	3·6	7·5	7·3	5·0	3·7
1939	9·4	8·8	5·1	3·5	8·2	7·0	4·7	3·3	6·4	5·9	3·7	2·2
1940	11·0	10·1	6·7	4·7	9·1	8·3	5·8	4·4	7·3	6·7	4·5	3·0
1941	14·1	13·0	7·3	5·4	11·2	9·2	5·8	4·4	8·4	6·9	4·2	3·1
1942	10·8	9·7	5·4	3·5	8·0	6·5	4·3	3·1	7·1	6·4	3·7	2·2
1943	11·3	10·6	5·8	3·5	8·4	7·3	4·6	2·6	6·9	6·1	3·6	2·4
1944	9·4	8·0	4·5	2·4	7·6	7·0	3·8	2·0	6·9	6·5	3·4	2·3
1945	10·1	8·8	4·5	2·7	8·0	7·0	4·1	2·3	6·4	5·4	3·0	2·0
Averages												
1938–40	9·9	9·1	5·8	4·3	8·5	7·3	5·1	3·8	7·1	6·6	4·4	3·0
1943–45	10·3	9·1	4·9	2·9	8·0	7·1	4·2	2·3	6·7	6·0	3·3	2·2
	East				South West				Wales			
Averages												
1938–40	6·7	5·5	3·7	3·1	7·0	4·7	3·8	3·3	9·6	7·8	6·0	4·3
1943–45	7·1	5·4	3·3	2·4	7·4	5·1	2·5	1·8	9·4	7·7	4·3	2·6

Mortality at **4 weeks** to **3 months** of age increased in every region in 1940, and still more in 1941, in which year the rate exceeded that of 1939 by 50 per cent. or more in the North and Wales, and by more than 30 per cent. in the other regions. It then declined to average levels for 1943–45 which were not appreciably different from those of 1938–40. At ages **3–6 months** the trends were very similar, the increase by 1941 being relatively greatest in the East and North and least in the South East, and no appreciable improvement occurred during the war except in the South East.

Mortality at **6–9 months** increased to a maximum in 1940 or 1941 in each region ; and it then fell to levels in 1943–45 substantially below those of 1938 and 1939 in each region. This was true also at **9–12 months** of age, the rates in 1943–45 showing remarkable improvement over those immediately before the war in every region, but particularly in the North, Midlands and Wales.

It is evident that the limitation of any important war-time fall in infant mortality to the periods of life before four weeks and after six months was a phenomenon occurring in every part of England and Wales. A possible explanation is that increased demands upon women resulted in a decline in breast feeding which counteracted at ages 1–6 months the effects of the factors tending to reduce infant mortality.

Infant Mortality by Sex, Legitimacy and Cause.—The rates per 1,000 related births in five age periods of the first year of life are given for each sex and for illegitimate infants without sex distinction in Table XIX for each year 1940 to 1945, and for 1936–39 and 1943–45. Separate rates for legitimate and illegitimate of each sex are given in Table XXI for the two periods 1940–42 and 1943–45.

Excess of male over female mortality in the neonatal period was 27 per cent. in 1936–39, 28 per cent. in 1940–42 and 26 per cent. in 1943–45 ; at 4 weeks to 3 months it was 44, 40 and 36 per cent. in the three periods ; at 3–6 months it was 32, 30 and 27, at 6–9 months 26, 23 and 22, and at 9–12 months 22, 17 and 11 per cent. At each age after the first month there was a progressive decrease in the degree of male excess, arising from the fact that mortality of male infants declined more rapidly than that of females. Indeed there was very little change in the mean annual rate for girl babies aged 1–6 months between 1936–39 and 1943–45.

Amongst live births, males comprised 105·4 per cent. of females in 1936–39, but the sex-ratio increased to 106·3 in 1943–45. For stillborn children the sex-ratio showed, as might be expected, a slight fall, the values in successive years from 1936 to 1945 being :—120, 119, 117, 117, 117, 117, 113, 117, 117, 116. Mortality in the first day of life showed a male excess of 24 per cent. in 1936–39, 25 per cent. in 1940–42 and 21 per cent. in 1943–45, as may be seen from Table XVIII and corresponding tables for years 1936–39 ; at 1–7 days the excess in the same periods was 32, 39 and 33 per cent., and at 1–4 weeks it was 23, 20 and 24 per cent. It is evident that there is a bimodal progression of the sex-ratio with advancing age, as was pointed out in the Text of 1938–39 Review (page 29), the degree of male excess being greatest at the two age periods 1–6 days and 4 weeks to 3 months, with a lower value in the intervening age period.

Years	Male per cent. of female infant death-rate						
	First day	2nd to 7th days	2nd to 4th weeks	4 weeks–3 months	3–6 months	6–9 months	9–12 months
1936–39 ...	124	132	123	144	132	126	122
1940–42 ...	125	139	120	140	130	123	117
1943–45 ...	121	133	124	136	127	122	111

Illegitimate infant mortality, as Table XIX shows, decreased progressively during the war without suffering any such increase in 1940 and 1941 as appeared in the total rate ; and in 1943–45 mortality was 22 per cent. below that of 1936–39, compared with 15 per cent. for all infants. Neonatal mortality of illegitimate infants also fell by 22 per cent., but at ages 4 weeks to 3 months by only nine per cent. At ages 6–12 months their mortality was 39 per cent. lower in 1943–45 than in 1936–39, the corresponding fall for all infants of that age being 31 per cent. Expressing the illegitimate as a percentage of the legitimate rate

Table XIX.—Infant Mortality by Age and Legitimacy, and by Cause ; Neonatal Mortality by Cause ; 1936–1945.

	Deaths per 1,000 related live births							
	1936-39	1940	1941	1942	1943	1944	1945	1943-45
ALL CAUSES								
All male infants								
under 4 weeks	32·5	33·2	32·6	30·3	27·9	27·0	27·7	27·5
4 weeks–3 months	10·2	10·7	13·2	10·1	10·0	9·3	9·4	9·6
3–6 months	8·7	9·6	10·7	8·4	8·9	7·7	7·7	8·1
6–9 months	5·9	6·3	6·4	4·8	5·0	4·1	4·2	4·4
9–12 months	4·4	4·4	4·6	3·0	2·9	2·3	2·5	2·6
Total under 1 year	**61·7**	**64·3**	**67·5**	**56·5**	**54·7**	**50·4**	**51·4**	**52·1**
All female infants								
under 4 weeks	25·6	25·8	25·2	23·9	22·4	21·5	21·7	21·9
4 weeks–3 months	7·1	7·7	9·3	7·2	7·5	6·7	6·9	7·0
3–6 months	6·6	6·7	8·6	6·7	6·6	6·2	6·2	6·4
6–9 months	4·7	5·0	5·2	4·0	4·0	3·5	3·3	3·6
9–12 months	3·6	3·6	4·1	2·6	2·7	2·2	2·1	2·3
Total under 1 year	**47·7**	**48·8**	**52·2**	**44·3**	**43·2**	**40·1**	**40·3**	**41·1**
Illegitimate infants								
under 4 weeks	45·3	44·0	41·0	40·7	36·3	35·5	34·3	35·3
4 weeks–3 months	16·2	15·2	17·5	14·6	15·6	15·5	13·7	14·8
3–6 months	13·9	12·6	13·9	11·7	11·9	10·5	10·1	10·7
6–9 months	7·1	6·7	5·6	5·3	4·9	4·7	3·8	4·4
9–12 months	4·3	3·8	4·3	2·6	2·7	2·3	2·8	2·6
Total under 1 year	**86·8**	**82·4**	**82·3**	**75·0**	**71·4**	**68·5**	**64·8**	**67·8**
All infants under 1 year								
Whooping cough	1·2	0·6	2·1	0·8	0·9	1·0	0·6	0·8
Tuberculous diseases	0·6	0·6	0·7	0·5	0·5	0·4	0·4	0·5
Measles	0·5	0·4	0·6	0·2	0·4	0·1	0·3	0·3
Convulsions	1·3	1·2	1·3	1·0	0·8	0·6	0·6	0·6
Bronchitis and pneumonia	10·5	12·7	13·7	9·2	10·2	8·5	9·3	9·3
Enteritis and diarrhœa	5·1	4·4	4·8	5·2	4·9	4·8	5·1	5·0
Congenital malformations	6·2	6·6	6·6	6·5	5·9	5·5	5·6	5·7
Premature birth	15·5	14·4	14·7	13·7	12·8	11·8	11·0	11·9
Injury at birth	2·7	2·7	2·6	2·6	2·4	2·4	2·7	2·5
Asphyxia, atelectasis	2·1	2·3	2·2	2·0	1·8	2·0	2·8	2·2
Hæmolytic disease	0·5	0·5	0·5	0·6	0·6	0·6	0·7	0·7
Operations of war	—	0·3	0·4	0·1	0·0	0·1	0·0	0·1
Other violence	1·1	1·4	1·6	1·4	1·3	1·4	1·5	1·4
Other and ill-defined causes	7·6	8·7	8·2	6·8	6·6	6·2	5·4	5·8
All causes	**54·9**	**56·8**	**60·0**	**50·6**	**49·1**	**45·4**	**46·0**	**46·8**
All infants under 4 weeks								
Infective diseases	0·20	0·23	0·27	0·16	0·21	0·14	0·13	0·16
Bronchitis	0·30	0·33	0·40	0·19	0·21	0·20	0·16	0·19
Pneumonia	0·85	1·18	1·28	1·14	1·12	1·12	1·23	1·15
Enteritis and diarrhœa	0·46	0·58	0·47	0·61	0·53	0·56	0·74	0·61
Congenital malformations	3·85	4·21	4·07	4·11	3·67	3·45	3·47	3·53
Premature birth	14·30	13·66	13·65	12·80	12·03	11·18	10·42	11·21
Asphyxia, atelectasis	2·05	2·20	2·10	1·92	1·74	1·92	2·73	2·12
Congenital debility	1·20	1·12	1·02	0·83	0·61	0·62	0·51	0·58
Hæmolytic disease	} 5·91	{ 0·49	0·49	0·56	0·56	0·57	0·67	0·60
Other causes		{ 5·61	5·25	4·91	4·54	4·59	4·70	4·62
All causes	**29·12**	**29·61**	**29·00**	**27·23**	**25·22**	**24·35**	**24·76**	**24·77**

Table XX.—Infant Mortality by Sex from Certain Causes at Various Ages, 1945. Rates per 1,000 Related Live Births.

International List No.	Cause of death		Total under 1 year	Under 30 mins.	30 mins. and under 1 day	Total under 1 day	Days						1 day and under 1 week	Weeks				Months				
							1	2	3	4	5	6		0	1	2	3	Total under 4 weeks	4 weeks to 3 mnths.	3–6	6–9	9–12
106	Bronchitis	M.	1·71	—	0·00	0·00	—	0·00	0·01	0·00	0·01	0·00	0·02	0·02	0·03	0·07	0·05	0·17	0·58	0·52	0·31	0·13
		F.	1·33	—	—	—	—	—	0·00	0·00	0·00	0·00	0·01	0·01	0·03	0·04	0·07	0·15	0·49	0·36	0·21	0·12
107–9	Pneumonia—all forms ...	M.	8·45	—	0·00	0·00	0·01	0·06	0·08	0·05	0·08	0·05	0·34	0·34	0·32	0·36	0·36	1·38	2·44	2·60	1·31	0·72
		F.	6·95	—	0·01	0·01	0·02	0·05	0·04	0·06	0·04	0·04	0·24	0·24	0·25	0·25	0·32	1·07	1·98	2·24	1·01	0·65
119	Enteritis and diarrhœa ...	M.	6·02	—	—	—	—	—	—	0·01	0·03	0·02	0·05	0·05	0·20	0·28	0·32	0·86	2·02	1·84	0·90	0·40
		F.	4·13	0·00	—	0·00	—	—	—	0·00	0·02	0·01	0·03	0·03	0·15	0·20	0·22	0·60	1·39	1·28	0·62	0·24
157	Congenital malformations	M.	5·89	0·13	0·58	0·71	0·32	0·32	0·32	0·22	0·20	0·13	1·53	2·24	0·63	0·40	0·27	3·55	1·36	0·59	0·26	0·13
		F.	5·31	0·13	0·63	0·76	0·27	0·29	0·27	0·15	0·20	0·14	1·32	2·08	0·69	0·33	0·29	3·40	0·90	0·60	0·25	0·16
158	Congenital debility ...	M.	1·13	0·02	0·14	0·16	0·05	0·03	0·06	0·01	0·02	0·01	0·17	0·33	0·13	0·09	0·10	0·64	0·33	0·12	0·03	0·01
		F.	0·73	0·02	0·11	0·12	0·02	0·02	0·02	0·02	0·02	0·01	0·10	0·23	0·05	0·07	0·03	0·37	0·23	0·11	0·01	0·01
159	Premature birth	M.	11·95	0·40	4·92	5·32	1·52	1·04	0·59	0·39	0·32	0·23	4·09	9·41	1·00	0·55	0·33	11·29	0·62	0·03	0·01	0·00
		F.	10·02	0·36	3·98	4·34	1·31	0·82	0·46	0·30	0·27	0·24	3·40	7·74	0·97	0·51	0·28	9·49	0·47	0·06	—	—
160 (*a*)	Intra-cranial or spinal hæmorrhage due to injury at birth	M.	2·40	0·11	0·67	0·78	0·37	0·39	0·26	0·12	0·07	0·07	1·28	2·06	0·20	0·05	0·04	2·36	0·02	0·02	—	—
		F.	1·42	0·09	0·45	0·54	0·19	0·19	0·11	0·06	0·05	0·04	0·65	1·19	0·13	0·04	0·02	1·38	0·03	—	0·01	0·00
(*b*)	Other intra-cranial or spinal injuries at birth	M.	0·14	0·01	0·05	0·05	0·02	0·02	0·01	0·00	—	—	0·05	0·10	0·01	0·01	0·01	0·13	0·00	0·01	—	—
		F.	0·06	0·00	0·02	0·02	0·01	0·01	0·01	0·00	—	—	0·02	0·05	0·01	0·00	—	0·06	0·00	—	—	—
(*c*)	Other birth injuries ...	M.	0·74	0·11	0·35	0·46	0·11	0·05	0·03	0·01	0·00	0·01	0·21	0·67	0·04	0·02	0·00	0·73	0·01	—	—	—
		F.	0·53	0·11	0·26	0·37	0·07	0·04	0·01	0·00	0·01	0·01	0·14	0·50	0·02	0·01	—	0·53	0·00	—	—	—
161 (*a*)	Asphyxia during or after birth, atelectasis	M.	3·29	0·21	1·39	1·60	0·50	0·33	0·23	0·10	0·06	0·06	1·28	2·87	0·20	0·08	0·06	3·22	0·05	0·01	0·00	0·01
		F.	2·26	0·12	1·08	1·20	0·37	0·21	0·10	0·05	0·07	0·03	0·84	2·04	0·12	0·04	0·02	2·22	0·04	0·00	—	—
(*b*)	Intoxication due to maternal toxæmia	M.	0·48	0·02	0·17	0·19	0·09	0·04	0·03	0·02	0·02	0·01	0·22	0·40	0·03	0·01	0·00	0·45	0·03	—	—	—
		F.	0·34	0·01	0·14	0·15	0·05	0·04	0·02	0·02	0·01	0·00	0·14	0·29	0·03	0·02	0·00	0·34	—	—	—	—
(*c*1)	Infections of the umbilicus	M.	0·05	—	—	—	—	0·00	0·00	0·00	0·00	—	0·01	0·01	0·01	0·01	0·02	0·04	0·01	0·00	—	—
		F.	0·05	—	0·00	0·00	—	—	—	0·01	—	0·01	0·01	0·02	0·01	0·01	—	0·04	0·01	—	—	—
(*c* 2)	Pemphigus neonatorum ...	M.	0·06	—	—	—	—	—	—	—	—	0·00	0·00	0·00	0·02	0·02	0·01	0·05	0·01	—	—	—
		F.	0·05	—	—	—	0·00	—	0·00	—	0·00	—	0·01	0·01	0·02	0·01	0·01	0·04	0·01	0·00	0·00	—
(*c*3)	Other or unspecified infections included under 161 (*c*)	M.	0·10	—	—	—	—	0·01	0·01	0·00	—	0·01	0·02	0·02	0·02	0·02	0·01	0·07	0·03	—	—	—
		F.	0·04	—	—	—	0·00	0·00	—	—	—	0·01	0·02	0·02	0·02	0·00	0·01	0·04	0·00	—	—	—
(*d*)	Melæna neonatorum ...	M.	0·46	0·01	0·05	0·06	0·04	0·07	0·10	0·04	0·02	0·03	0·30	0·36	0·06	0·03	0·01	0·45	0·01	—	—	—
		F.	0·32	0·00	0·05	0·05	0·02	0·06	0·05	0·02	0·02	0·01	0·17	0·21	0·05	0·02	0·01	0·30	0·01	0·01	—	—
(*e*1)	Hæmolytic diseases of the newborn	M.	0·89	0·01	0·06	0·08	0·04	0·13	0·13	0·08	0·06	0·04	0·48	0·56	0·15	0·07	0·05	0·83	0·05	0·01	—	—
		F.	0·55	0·02	0·06	0·08	0·03	0·08	0·08	0·05	0·03	0·02	0·29	0·37	0·10	0·02	0·01	0·50	0·04	0·01	0·00	—
(*e*2)	Other diseases included under 161 (*e*)	M.	0·11	0·00	0·02	0·02	0·01	0·02	0·00	0·00	0·00	0·00	0·03	0·06	0·02	0·01	0·01	0·09	0·02	—	—	—
		F.	0·08	0·01	0·02	0·02	0·00	—	0·01	0·00	0·00	0·00	0·02	0·04	0·02	0·01	0·00	0·07	0·01	—	0·00	—
	Other causes	M.	7·54	0·30	0·10	0·39	0·05	0·12	0·06	0·03	0·03	0·03	0·31	0·71	0·24	0·20	0·23	1·37	1·80	1·95	1·36	1·06
		F.	6·07	0·34	0·09	0·43	0·04	0·04	0·03	0·03	0·02	0·02	0·17	0·61	0·14	0·17	0·15	1·07	1·30	1·56	1·21	0·93

in successive years, derived from the fuller detail of Table XVIII and its counterparts for 1936–39, the excess of illegitimate mortality on the first day of life fell from an average level of about 100 per cent. in 1936–39 to less than 70 per cent. towards the end of the war. In the age periods from 1 day to 3 months the excess did not change greatly ; at 3–6 months it improved from about 90 per cent. to below 60 ; at 6–9 months it fell from about 40 per cent. to quite a small excess, and at 9–12 it remained slight in amount. The year showing smallest excess of illegitimate over legitimate mortality on the first day of life was 1945, but for mortality in the remainder of the first year of age it was 1941. From 1937 to 1942 the excess was greatest on the first day, but from 1943 onwards it was greatest in the age period 4 weeks–3 months.

Year	Illegitimate per cent. of legitimate infant death-rate						
	First day	2nd to 7th days	2nd to 4th weeks	4 weeks–3 months	3–6 months	6–9 months	9–12 months
1936 ...	185	114	147	179	186	136	108
1937 ...	201	120	141	193	187	110	100
1938 ...	197	119	134	197	176	147	105
1939 ...	234	151	168	207	203	158	121
1940 ...	182	121	159	169	157	120	95
1941 ...	194	106	138	161	148	97	100
1942 ...	187	134	143	176	160	123	93
1943 ...	177	129	137	188	157	109	96
1944 ...	169	130	156	207	157	124	100
1945 ...	160	122	156	180	151	100	122

Table XXI distinguishes the mortality of illegitimate infants according to sex at five age periods of the first year of life in 1940–42 and 1943–45. Neonatal mortality in 1938, 1939, 1940–42, 1943–45 was, for male illegitimates, 48·9, 51·8, 46·7, 37·2, whilst for female illegitimates the progression was 34·2, 48·6, 36·4, 33·2, male excess becoming very small in 1939 owing to a pronounced rise in the female rate and again in 1943–45 owing to a pronounced fall in the male rate. Mortality at 4 weeks–3 months for males was 18·9 in 1938 and improved to 16·8 by 1943–45, but for females it was 11·6 in 1938 and increased to 12·6, changing the sex proportion from 162 to 133. At 3–9 months it declined in about the same measure for each sex ; and at 9–12 months male excess in the rate for illegitimates decreased and then increased again.

Causes of infant mortality during the first year as a whole are shown in Tables 11 and 12 for a series of years, and with more detail of cause and of age the numbers of deaths are given in Table 22 of each year's Review. In Table XIX rates for the neonatal period and under a year are given for the more important causes from 1936–39 to 1945, and in Table XX neonatal mortality in 1945 is analysed more completely with full detail of age for 18 causes or groups of causes. Table XXI shows rates under one year of age by cause, sex and legitimacy in 1940–42 and 1943–45.

Table XXI.—Infant Mortality by Cause, Sex and Legitimacy, 1940–45.

		Mean annual rates per 1,000 related live births						Mortality ratios			
		Legitimate		Illegitimate		All Infants		Male percent of Female rate		Illegitimate percent of Legitimate rate	
		Male	Female	Male	Female	Male	Female	All Infants	Illegitimate	Male	Female
	1940–1942										
All causes	Under 4 weeks	31·20	24·32	46·71	36·44	32·00	24·94	128	128	150	150
	4 weeks–3 months	10·91	7·75	18·40	12·88	11·28	8·00	141	143	169	166
	3–6 months	9·28	7·09	14·00	11·25	9·51	7·30	130	124	151	159
	6–9 months	5·78	4·68	6·56	5·00	5·82	4·69	124	131	113	107
	9–12 months	4·02	3·42	3·59	3·43	4·00	3·42	117	105	89	100
All ages under one year	Whooping cough	1·06	1·24	0·77	1·40	1·05	1·24	85	55	73	113
	Tuberculous diseases	0·68	0·56	0·65	0·47	0·67	0·54	124	138	96	84
	Measles	0·42	0·38	0·43	0·41	0·42	0·37	114	105	102	108
	Convulsions	1·40	0·95	1·50	0·78	1·41	0·94	150	192	107	82
	Bronchitis and pneumonia	13·09	10·06	15·96	12·56	13·23	10·18	130	127	122	125
	Enteritis and diarrhœa	5·35	3·83	10·02	7·01	5·60	3·98	141	143	187	183
	Congenital malformations	6·94	6·16	7·63	5·82	6·97	6·14	114	131	110	94
	Premature birth	15·66	12·04	23·45	18·61	16·07	12·38	130	126	150	155
	Injury at birth	3·10	2·04	3·79	2·66	3·13	2·07	151	142	122	130
	Asphyxia, atelectasis	2·35	1·86	3·15	2·28	2·39	1·88	127	138	134	123
	Hæmolytic diseases	0·68	0·45	0·69	0·24	0·68	0·44	155	287	101	53
	Operations of war	0·24	0·26	0·33	0·35	0·25	0·28	89	94	137	135
	Other violence	1·48	1·24	2·16	1·83	1·52	1·28	119	118	146	148
	Other and ill-defined causes	9·74	6·19	18·73	14·58	9·22	6·63	139	128	192	236
	All causes	**61·19**	**47·26**	**89·26**	**69·00**	**62·61**	**48·35**	**129**	**129**	**146**	**146**
	1943–1945										
All causes	Under 4 weeks	26·70	20·92	37·15	33·22	27·50	21·85	126	112	139	159
	4 weeks–3 months	8·96	6·56	16·79	12·63	9·56	7·01	136	133	187	193
	3–6 months	7·77	6·14	12·14	9·17	8·10	6·36	127	132	156	149
	6–9 months	4·36	3·59	4·96	3·81	4·40	3·60	122	130	114	106
	9–12 months	2·54	2·32	2·94	2·28	2·57	2·31	111	129	116	98
All ages under one year	Whooping cough	0·75	0·90	0·69	0·82	0·75	0·89	84	84	92	91
	Tuberculous diseases	0·49	0·43	0·59	0·42	0·49	0·42	117	140	120	98
	Measles	0·29	0·28	0·28	0·31	0·28	0·29	97	90	97	111
	Convulsions	0·75	0·52	1·11	0·46	0·77	0·51	151	241	148	88
	Bronchitis and pneumonia	10·08	7·97	13·63	11·31	10·35	8·22	126	121	135	142
	Enteritis and diarrhœa	5·27	3·86	11·10	7·97	5·71	4·16	137	139	211	206
	Congenital malformations	6·02	5·30	6·02	5·33	6·01	5·31	113	113	100	101
	Premature birth	12·49	10·24	18·18	16·74	12·93	10·73	121	109	146	163
	Injury at birth	2·93	1·86	3·15	2·61	2·96	1·91	155	121	108	140
	Asphyxia, atelectasis	2·46	1·81	2·91	2·15	2·50	1·83	137	135	118	119
	Hæmolytic diseases	0·83	0·51	0·55	0·29	0·80	0·49	163	190	66	57
	Operations of war	0·07	0·08	0·10	0·09	0·07	0·08	88	111	143	113
	Other violence	1·40	1·19	2·15	1·85	1·46	1·23	119	116	154	155
	Other and ill-defined causes	6·50	4·58	13·52	10·76	7·05	5·06	139	126	208	235
	All causes	**50·33**	**39·53**	**73·98**	**61·11**	**52·13**	**41·13**	**127**	**121**	**147**	**155**

Neonatal mortality attributed by the certifying doctor to prematurity as principal cause averaged 14·30 per 1,000 related births in 1936–39, and declined without interruption to 10·42 in 1945. For about one-seventh of these deaths some other definite condition is mentioned on the certificate as secondary or contributory ; and in a sample of deaths during February, 1945, about five per cent. had associated bronchitis or pneumonia and two per cent. some other infection. A slight shifting of emphasis in medical opinion away from prematurity and towards an accompanying infection as principal cause could easily account for the fact that between 1936–39 and 1943–45, whilst the prematurity rate was declining by 3·09 or 22 per cent., the much smaller combined rate for infective diseases, pneumonia, bronchitis and enteritis increased from 1·81 to 2·11 or by 0·30, this being no more than 2·1 per cent. of the original prematurity rate. In 1945 the prematurity rate for male infants was 5·3 on the first day, 7·9 in the first three days and 9·4 in the first week of life ; and for female infants the corresponding rates were 4·3, 6·5 and 7·7 (Table XX). In successive weeks following, the rates were about 1·0, 0·5 and 0·3. A few deaths attributed to prematurity occur, with rapidly diminishing frequency, up to the end of the first year, thus raising the rate by about 0·6.

Pneumonia certified as underlying cause of death was responsible in 1945 for a death-rate in each of the first four weeks of life which was almost constant at about 0·34 per 1,000 for males and 0·26 for females. In the next nine weeks the rates averaged 0·27 and 0·22 respectively, and from the 14th to 26th weeks 0·20 and 0·17. There was a continuous decrease in the rate of dying from this cause, therefore, up to six months of age, and during the second half of the first year mortality fell off rapidly (Table XX).

The rate of dying from enteritis and diarrhœa in 1945 increased amongst male infants from 0·05 per 1,000 in the first week to 0·32 in the fourth, averaged 0·22 weekly in the next nine weeks, and 0·14, 0·07 and 0·03 weekly in the next age periods of 13 weeks ; and for females the progression was similar but at a lower level. Mortality from this cause in the first year as a whole changed little from 1936–39 to 1943–45, and it was more than twice as great amongst illegitimate infants as for legitimates in the latter period.

Congenital malformations accounted in 1936–39 for a rate of 3·9 in the neonatal period and 2·3 during the rest of the first year. In 1940–42 the rates averaged 4·1 and 2·5 respectively, and in 1943–45 they fell to 3·5 and 2·2. Mortality in the first week is about 2·2 per 1,000 and falls off continuously thereafter, as shown in Table XX.

Asphyxia and atelectasis have, according to certification, been responsible for a death-rate of about two per 1,000, with little change since 1936–39 ; but congenital debility has diminished rapidly as the certified cause of death.

Hæmolytic diseases of the newborn have been distinguished as a special sub-group of No. 161e by the Registrar General since 1940, the title having been chosen after consultation with specialists. The group includes erythroblastosis, icterus gravis and œdema of the newborn, hydrops fœtalis, kernicterus and related conditions. The numbers of deaths for each sex are shown in Table 6, and rates per 1,000 live births in Table 12, for each year back to 1931. From 1931 to 1940 there was no consistent change in the annual totals, those of males ranging between 189 and 211, and those of females between 95 and 148. The annual averages during 1931–40 for males and females were 199 and 118 respectively and the mean annual rates per 1,000 live births were 0·64 and 0·40, indicating a male excess of 60 per cent. For both sexes together the neonatal rate, which was 0·49 in 1940–41, increased to 0·56 in 1942–43 and 0·67 in 1945 (Table XIX). During that period, interest in the group of conditions was enhanced by advances in knowledge concerning the role of the Rh factor in causation, with consequent possibilities for prevention or at any rate for reduction in fatality. This may have resulted in more careful diagnosis and certification of the conditions, and may thus account for the apparent rise in mortality by 1945. In this connection it is curious to note from Table XXI that whereas infant mortality from these conditions increased from 1940–42 to 1943–45 amongst legitimate male infants, it did not do so amongst illegitimate males. In the latter period there was a statistically significant excess of legitimate over illegitimate mortality. Table XX shows that in 1945 hæmolytic disease mortality of male infants was 0·89 per 1,000, of which 0·25 occurred in the first three days, 0·31 in the rest of the first week and 0·27 in the next three weeks ; and for females the total rate was 0·55, of which 0·19 occurred within three days, 0·18 at 3–7 days and 0·13 at 1–4 weeks.

Convulsions and ill-defined causes, including congenital debility, accounted for a rate of 8·9 per 1,000 births in 1936–39 and by 1943–45 this had fallen to 6·4, or 14 per cent. of the total rate. Amongst illegitimate children, however, the rate continued to be double that for legitimate children.

Table XXII shows infant mortality during three periods of time in the seven large regions from 12 causes, and in the last two columns the rates for 1940–42 and 1943–45 are expressed as percentages of the national rate. Greater London showed 21 and 16 per cent. excess over the national rate in these two periods for enteritis, 19 and 14 per cent. excess for violence, and very low rates for convulsions and congenital debility. North region showed excess for each cause, amounting for example to 50 and 36 per cent. for measles, 30 and 33 for

Table XXII.—Comparison of Infant Mortality from the Principal Causes in Geographical Regions—Rates per 100,000 Related Live Births in 1936–39, 1940–42 and 1943–45, and per cent. of the England and Wales Rate in 1940–42 and 1943–45.

Cause	Rates per 100,000 Related Live Births			Per cent. of England & Wales		Rates per 100,000 Related Live Births			Per cent. of England & Wales	
	1936–39	1940–42	1943–45	1940–42	1943–45	1936–39	1940–42	1943 45	1940–42	1943–45
	ENGLAND AND WALES					MIDLAND REGION				
Measles	52	40	28	100	100	36	37	33	93	118
Whooping cough	123	115	82	100	100	125	134	79	117	96
Tuberculosis	58	61	46	100	100	69	56	52	92	113
Bronchitis and pneumonia	1,049	1,175	932	100	100	1,040	1,116	887	95	95
Diarrhœa and enteritis	506	481	496	100	100	454	519	494	108	100
Congenital malformations	623	657	567	100	100	660	666	583	101	103
Premature birth	1,546	1,427	1,186	100	100	1,626	1,452	1,181	102	100
Injury at birth	267	262	246	100	100	277	253	249	97	101
Violence	116	165	143	100	100	115	148	127	90	89
Congenital debility	203	196	110	100	100	200	177	102	90	93
Convulsions	128	118	65	100	100	109	99	55	84	85
Other causes	819	871	779	100	100	809	878	773	101	99
All Causes — Under 1 year	**5,490**	**5,568**	**4,680**	**100**	**100**	**5,520**	**5,535**	**4,615**	**99**	**99**
All Causes — Under 1 month	**2,912**	**2,857**	**2,477**	**100**	**100**	**3,013**	**2,877**	**2,460**	**101**	**99**
	GREATER LONDON					EAST REGION				
Measles	57	22	21	55	75	25	28	13	70	46
Whooping cough	126	102	91	89	111	110	100	79	87	96
Tuberculosis	50	57	33	93	72	53	47	56	77	122
Bronchitis and pneumonia	1,001	942	760	80	82	760	797	707	68	76
Diarrhœa and enteritis	847	580	575	121	116	232	272	308	57	62
Congenital malformations	524	580	516	88	91	625	650	554	99	98
Premature birth	1,222	1,229	1,023	86	86	1,458	1,277	1,101	89	93
Injury at birth	243	257	225	98	91	231	268	260	102	106
Violence	129	196	163	119	114	93	176	156	107	109
Congenital debility	117	84	39	43	35	240	195	112	99	102
Convulsions	27	27	12	23	18	94	84	33	71	51
Other causes	764	730	728	84	93	686	835	662	96	85
All Causes — Under 1 year	**5,107**	**4,806**	**4,185**	**86**	**89**	**4,607**	**4,729**	**4,041**	**85**	**86**
All Causes — Under 1 month	**2,357**	**2,549**	**2,244**	**89**	**91**	**2,726**	**2,611**	**2,240**	**91**	**90**
	REMAINDER OF SOUTH EAST					SOUTH WEST REGION				
Measles	21	18	18	45	64	29	33	11	83	39
Whooping cough	81	80	60	70	73	114	90	70	78	85
Tuberculosis	49	62	40	102	87	51	50	46	82	100
Bronchitis and pneumonia	677	861	650	73	70	716	905	660	77	71
Diarrhœa and enteritis	302	288	401	60	81	211	271	319	56	64
Congenital malformations	552	580	531	88	94	630	672	553	102	98
Premature birth	1,263	1,175	1,047	82	88	1,443	1,213	1,130	85	95
Injury at birth	242	239	236	91	96	287	277	261	106	106
Violence	121	149	151	90	106	122	190	152	115	106
Congenital debility	154	139	85	71	77	198	209	127	107	115
Convulsions	64	44	22	37	34	81	69	36	58	55
Other causes	680	753	689	86	88	695	819	670	94	86
All Causes — Under 1 year	**4,206**	**4,388**	**3,930**	**79**	**84**	**4,577**	**4,798**	**4,035**	**86**	**86**
All Causes — Under 1 month	**2,423**	**2,447**	**2,240**	**86**	**90**	**2,777**	**2,631**	**2,345**	**92**	**95**
	NORTH REGION					WALES				
Measles	78	60	38	150	136	42	47	36	118	129
Whooping cough	134	126	88	110	107	150	139	90	121	110
Tuberculosis	65	72	50	118	109	47	48	47	79	102
Bronchitis and pneumonia	1,308	1,523	1,238	130	133	1,114	1,367	1,029	116	110
Diarrhœa and enteritis	521	567	569	118	115	351	441	421	92	85
Congenital malformations	676	712	601	108	106	690	695	588	106	104
Premature birth	1,798	1,626	1,334	114	112	1,749	1,672	1,326	117	112
Injury at birth	289	275	252	105	102	264	263	257	100	104
Violence	111	168	139	102	97	104	139	123	84	86
Congenital debility	251	252	145	129	132	323	356	190	182	173
Convulsions	191	179	101	152	155	374	320	201	271	309
Other causes	954	985	874	113	112	825	969	841	111	108
All Causes — Under 1 year	**6,376**	**6,545**	**5,429**	**118**	**116**	**6,033**	**6,456**	**5,149**	**116**	**110**
All Causes — Under 1 month	**3,346**	**3,156**	**2,722**	**110**	**110**	**3,379**	**3,301**	**2,741**	**116**	**111**

bronchitis-pneumonia, 18 and 15 for enteritis, 18 and 9 for tuberculosis, 14 and 12 for prematurity. Wales continued to have large excess for the ill-defined conditions, and showed moderate excess for measles, whooping cough, bronchitis-pneumonia and prematurity, but none for enteritis. South West and East regions showed slight excess for injury at birth and violence, and the tuberculosis rate was relatively high in the latter region in 1943–45. Otherwise the rates for Southern regions were below the national averages for each disease group. The Midlands had rates close to the national averages except for some excess of whooping cough and enteritis in 1940–42 and of measles and tuberculosis in 1943–45.

Table XXIII.—Mortality from all Causes per Million Population, 1921–30, and each year 1938 to 1945.

	1921–30	1938	1939	1940	1941	1942	1943	1944	1945
	MALES (Civilians from 3rd September, 1939)								
All ages									
Crude ...	**12,918**	**12,466**	**12,950**	**16,127**	**15,692**	**14,408**	**15,282**	**15,252**	**14,955**
C.M.I. ...	**1·163**	**1·000**	**1·016**	**1·187**	**1·096**	**0·967**	**0·978**	**0·952**	**0·920**
Ages under 65 E.A.R. ...	9,858	8,186	8,152	10,016	9,489	8,187	8,357	8,227	7,805
0– ...	25,146	17,075	15,183	17,525	18,244	15,648	15,584	14,784	13,699
5– ...	2,516	1,934	1,650	2,119	2,250	1,681	1,610	1,575	1,354
10– ...	1,654	1,277	1,081	1,479	1,497	1,162	1,095	1,181	1,030
15– ...	2,618	2,009	1,869	2,763	2,938	2,123	2,115	1,952	1,794
20– ...	3,405	2,728	2,643	4,801	5,566	4,753	5,045	4,789	4,749
25– ...	3,856	2,826	2,738	4,084	4,643	3,854	4,038	4,287	3,838
35– ...	6,342	4,571	4,423	5,838	5,637	4,673	4,762	4,749	4,196
45– ...	11,592	10,221	10,343	12,503	11,026	9,576	9,952	9,617	9,104
55– ...	24,620	23,082	24,270	28,335	25,123	22,432	22,844	22,685	22,279
65– ...	58,241	53,737	55,393	61,274	55,209	51,171	51,413	50,614	50,325
75– ...	135,438	130,073	139,089	151,846	134,598	120,661	122,596	116,457	115,696
85 and over ...	285,798	263,624	280,761	303,200	258,762	232,867	234,137	211,964	204,717
	FEMALES (Civilians from 1st June, 1941)								
All ages									
Crude ...	**11,393**	**10,834**	**11,319**	**12,864**	**11,810**	**10,660**	**11,260**	**10,842**	**10,846**
C.M.I. ...	**1·224**	**1·000**	**1·028**	**1·156**	**1·043**	**0·916**	**0·944**	**0·894**	**0·875**
Ages under 65 E.A.R. ...	7,705	5,948	5,830	6,731	6,250	5,413	5,455	5,232	4,962
0– ...	20,231	13,371	12,071	13,635	14,547	12,274	12,432	11,701	10,787
5– ...	2,329	1,800	1,314	1,803	1,862	1,313	1,184	1,173	1,008
10– ...	1,633	1,093	972	1,310	1,240	915	975	918	789
15– ...	2,484	1,712	1,637	2,323	2,277	1,727	1,687	1,547	1,380
20– ...	3,020	2,249	2,267	2,865	2,809	2,408	2,359	2,356	2,092
25– ...	3,453	2,485	2,474	2,940	2,852	2,407	2,445	2,443	2,134
35– ...	4,855	3,586	3,508	4,135	3,765	3,220	3,321	3,114	2,923
45– ...	8,608	6,974	7,047	8,044	7,256	6,368	6,435	6,189	5,921
55– ...	18,319	15,503	15,737	17,663	15,382	13,871	13,940	13,414	13,250
65– ...	44,886	38,794	40,501	44,998	39,484	35,354	36,434	34,591	34,595
75– ...	111,560	98,149	106,201	116,409	101,843	91,022	95,948	89,750	90,161
85 and over ...	248,156	228,876	251,100	267,460	241,708	209,179	213,457	188,842	189,541
	PERSONS (Non-civilians excluded as above)								
All ages									
Crude ...	**12,123**	**11,618**	**12,097**	**14,356**	**13,536**	**12,307**	**12,997**	**12,731**	**12,613**
C.M.I. ...	**1·192**	**1·000**	**1·022**	**1·171**	**1·070**	**0·942**	**0·957**	**0·918**	**0·893**
0– ...	22,718	15,258	13,658	15,619	16,432	13,997	14,041	13,276	12,276
5– ...	2,424	1,868	1,484	1,963	2,059	1,500	1,401	1,377	1,184
10– ...	1,643	1,186	1,027	1,395	1,370	1,039	1,036	1,051	911
15– ...	2,551	1,861	1,752	2,535	2,589	1,913	1,879	1,726	1,563
20– ...	3,205	2,487	2,448	3,499	3,551	3,021	3,016	2,958	2,733
25– ...	3,639	2,652	2,602	3,443	3,532	2,925	2,970	3,012	2,666
35– ...	5,544	4,050	3,940	4,922	4,624	3,868	3,948	3,816	3,475
45– ...	10,029	8,468	8,561	10,070	8,973	7,823	8,019	7,729	7,364
55– ...	21,310	19,012	19,669	22,559	19,828	17,762	17,963	17,584	17,307
65– ...	50,846	45,480	47,159	52,269	46,503	42,402	43,090	41,682	41,513
75– ...	120,949	110,557	118,985	130,130	114,345	102,565	106,394	100,289	100,269
85 and over ...	260,164	240,017	260,602	278,717	247,176	216,793	220,218	196,459	194,544

Mortality at Ages over One Year

Table XXIII gives the death-rates per million living at different ages in five-year groups up to 25, ten-year groups from 25 to 85, and at all ages thereafter for 1921–30 and each year 1938 to 1945. Crude rates at all ages, equivalent average rates at ages under 65 and comparative mortality indices at all ages are also shown. Non-civilian males have been excluded from 3rd September, 1939, and non-civilian females from 1st June, 1941, onwards, both from the population and from the deaths, which include those registered in England and Wales as due to operations of war.

Table XXIV gives corresponding rates with exclusion of deaths due to operations of war, in each year 1940 to 1945, and for the periods 1931–35, 1936–39 and 1941–45. Table XXV expresses these rates for years 1940 to 1945, and for period 1941–45, as percentages of the corresponding rates in 1936–39, and also shows the 1941–45 rates as percentages of those in 1921–30 and 1931–35.

The effect of operations of war in increasing the civilian death-rate at various ages, as given by the differences between the rates in Tables XXIII and XXIV, is discussed on pages 16–19. For purposes of comparison with previous periods the rates in Table XXIV are more useful as measures of the state of public health, but it must be remembered that at ages between 15 and 55 of males and between 20 and 35 of females they were prejudiced by the removal of significant numbers of the healthiest individuals into the services, leaving residual populations whose death-rates might be expected to be enhanced by such selection.

In 1940 death-rates from causes other than operations of war were below the mean rates of 1936–39 for children under 15 and for women between 25 and 45, but in all other sex-age groups they were higher. Amongst women aged 20–25 and 45–55 the increase was quite small; for young people aged 15–20, men aged 35–45, women aged 55–75, men aged 65–75 and old people aged 85 and over it amounted to six to nine per cent. Men between 45 and 65, and old people aged 75–85 showed increases of 10 to 14 per cent. In the groups of men most affected by selection for the services the death-rate of civilians was 51 per cent. greater in 1940 than in 1936–39 at ages 20–25 and 17 per cent. greater at 25–35.

The effect of selection on the civilian death-rate of men aged 20–25 may be estimated by comparing them with women of the same age-group. The population of the latter averaged 1,630 thousands in 1937–38 and 1,566 thousands in 1940, a decrease of 3·93 per cent. The corresponding male population in 1937–38 was 1,596 thousands and reducing this by the same percentage the total from which the selection was made during 1939 and part of 1940 is estimated at about 1,533 thousands. The civilian population from which the deaths of 1940 were taken was estimated as 763 thousands or almost exactly one half the original number, and their death-rate was 51 per cent. enhanced compared with one per cent. in the corresponding age groups of women. If the death-rate which the selected half would have experienced had they remained as civilians is denoted by r_1, and that of the residual half by r_2, the above considerations lead to the equation $r_2 = 1{\cdot}5\left(\frac{r_1}{2}+\frac{r_2}{2}\right)$ or $r_1=\frac{1}{3}r_2$. In other words, of the population of men aged 20–25 the half who were drafted into the services just

before and at the beginning of the war turned out to be so selected as to have a short-term potential death-rate about one-third of that of the other half left in the civilian population. The causes of death contributing to this divergence are examined on page 67.

The increase of 17 per cent. in 1940 for men aged 25–35 was made up, as Table XXXII shows, of a 22 per cent. rise at 25–30 and 13 per cent. at 30–35, and this again is compatible with a similar effect of selection, since about one-quarter of the age-group 25–30 had passed into the services.

Table XXIV.—Mortality from all Causes except Operations of War, per Million Population, 1931–35, 1936–39, 1941–45 and each year 1940 to 1945

	1931-35	1936-39	1940	1941	1942	1943	1944	1945	1941-45
	MALES (Civilians from 3rd September, 1939)								
All ages Crude	**12,739**	**12,870**	**15,486**	**15,085**	**14,287**	**15,186**	**14,973**	**14,881**	**14,877**
Ages under 65 E.A.R.	8,939	8,463	9,372	8,847	8,066	8,262	7,957	7,731	8,169
0–	20,133	17,457	17,176	17,902	15,593	15,541	14,630	13,647	15,417
5–	2,279	1,924	1,851	1,976	1,611	1,553	1,439	1,313	1,576
10–	1,438	1,220	1,174	1,202	1,079	1,017	1,006	970	1,056
15–	2,449	2,011	2,154	2,308	2,013	2,019	1,735	1,737	1,981
20–	3,154	2,769	4,176	4,829	4,651	4,949	4,558	4,678	4,734
25–	3,308	2,881	3,382	3,897	3,726	3,957	4,018	3,767	3,868
35–	5,378	4,717	5,103	4,911	4,548	4,674	4,476	4,135	4,563
45–	11,138	10,603	11,703	10,298	9,410	9,822	9,261	9,003	9,555
55–	23,550	24,118	27,467	24,289	22,270	22,712	22,283	22,177	22,743
65–	56,722	55,601	60,489	54,483	51,030	51,294	50,218	50,235	51,414
75–	135,237	136,229	150,997	133,906	120,497	122,463	116,005	115,613	121,313
85 and over	278,914	281,766	302,075	258,024	232,644	233,941	209,679	204,650	225,819
	FEMALES (Civilians from 1st June, 1941)								
All ages Crude	**11,378**	**11,315**	**12,378**	**11,403**	**10,579**	**11,193**	**10,619**	**10,790**	**10,917**
Ages under 65 E.A.R.	6,858	6,179	6,273	5,861	5,340	5,393	5,027	4,909	5,302
0–	16,018	13,758	13,310	14,216	12,205	12,385	11,572	10,749	12,191
5–	2,074	1,683	1,542	1,595	1,263	1,135	1,055	966	1,201
10–	1,373	1,083	1,015	977	863	901	793	754	859
15–	2,218	1,752	1,850	1,853	1,666	1,625	1,388	1,329	1,579
20–	2,767	2,395	2,412	2,392	2,332	2,307	2,131	2,042	2,242
25–	3,090	2,609	2,492	2,489	2,342	2,398	2,245	2,085	2,315
35–	4,332	3,751	3,676	3,382	3,150	3,259	2,922	2,868	3,113
45–	7,961	7,320	7,498	6,812	6,283	6,365	5,932	5,853	6,245
55–	16,970	16,151	17,042	14,895	13,770	13,858	13,110	13,185	13,754
65–	42,827	40,961	44,286	38,934	35,212	36,330	34,225	34,518	35,792
75–	108,892	104,634	115,555	100,848	90,843	95,818	89,339	90,087	93,211
85 and over	244,957	248,557	265,977	240,933	208,905	213,343	188,342	189,484	206,244

In 1941 death-rates of children under five, boys aged 5–10, and males aged 15–35 increased still further above the levels of 1936–39; for men of 35–45 and 55–65 they fell almost to pre-war level again, and for all other groups the rates fell below those levels.

In 1942 there was an all-round fall in death-rates in every age-group, children's mortality being 11 to 25 per cent. below 1936–39 rates, and that of women over 35 falling to about 15 per cent. below. This improvement was not quite maintained in 1943, except in children at 5–10, boys aged 10–15 and young women 15–25.

In 1944 the downward movement of rates was resumed in every group except men aged 25–35, being very pronounced amongst females of every age and for males under 10, 15–20, 45–55 and over 75. Further improvement occurred in 1945 amongst children under 15, males 25–55 and females 15–55, but at ages over 55 neither sex showed any appreciable change.

Table XXV shows that when the mean rates of 1941–45 are compared with the periods between the wars, the crude death-rates of civilians were raised by about 16 per cent. for males and decreased by four per cent. for females. How fictitious this rate is as an indication of the trend of the true rate of mortality is seen from the fact that the equivalent average death-rate of males at ages up to 65 was 17 per cent. lower in 1941–45 than in 1921–30, at ages 65–75 it was 12 per cent. lower, at 75–85 10 per cent. lower and at 85 and over 21 per cent. lower. Notwithstanding this, the crude rate at all ages was 15 per cent. higher, this being due entirely to the great increase in the proportion of old people in the population.

Comparison of 1941–45 rates with those of just a decade before shows that the maximum improvement occurred amongst girls between 5 and 15, whose rates fell by about 40 per cent. Next came boys aged 5–15 and females of 15–20 and 35–45 with about 30 per cent. decrease, followed by children under five and females aged 25–35 and 45–55 with about 24 per cent. Males of 15–20 and over 85, and females of 20–25 and 55–65 registered 19 per cent. decline ; and males of 35–55 and females 65 and over about 15 per cent. Apart from the men aged 20–35 most affected by selection, the group showing least improvement was that of men aged 55–65, whose rate was only three per cent. less in 1941–45 than in 1931–35.

By 1945 the death-rate of male civilians aged 20–25 was about 70 per cent. above that of 1936–39, and at ages 25–35 about 30 per cent. above, whereas judging from the rates at 15–20 and amongst young women a fall of about 15 per cent. would have occurred had there been no selection by recruitment. The population by that time had been reduced to 475 thousands at 20–25, or by 70 per cent., and to 1,454 thousands at 25–35, or by 57 per cent. Since the civilian rate r_2 at 20–25 was just double the expected, if the potential death-rate of the non-civilians be denoted by r_1, this leads to the equation $r_2=2\ (0{\cdot}7\ r_1+0{\cdot}3\ r_2)$ or $r_2=3{\cdot}5r_1$. It appears that the effect of continuous selection of the fittest men and discharge of the unfit men at 20–25 throughout the war must have been to leave behind a residual population of about 30 per cent. whose death-rate per 1,000 was $3\frac{1}{2}$ times the death-rate per 1,000 which would have been experienced in the same circumstances by the men accepted for and kept in the services. A similar calculation for ages 25–35, based on the figures above, gives a ratio of about 2·6.*

* During years 1939–46 the proportions of rejections out of the men medically examined were nine per cent. at ages under 21, 15 per cent. at 21–25, 21 per cent. at 26–35 and 35 per cent. at 36–45, according to a report of the Ministry of Labour and National Service (Cmd. 7225, 1947).

Table XXV.—Mortality at Various Ages from all Causes except Operations of War in 1940 to 1945 per cent. of that for the same Sex and Age in 1936–39.

	Per cent. of 1936–39							Per cent. of 1921–30	Per cent. of 1931–35
	1940	1941	1942	1943	1944	1945	1941–45	1941–45	1941–45
	MALES								
All ages Crude ...	**120**	**117**	**111**	**118**	**116**	**116**	**116**	**115**	**117**
Ages under 65 E.A.R. ...	111	105	95	98	94	91	97	83	91
0–	98	103	89	89	84	78	88	61	77
5–	96	103	84	81	75	68	82	63	69
10–	96	99	88	83	82	80	87	64	73
15–	107	115	100	100	86	86	99	76	81
20–	151	174	168	179	165	169	171	139	150
25–	117	135	129	137	139	131	134	100	117
35–	108	104	96	99	95	88	97	72	85
45–	110	97	89	93	87	85	90	82	86
55–	114	101	92	94	92	92	94	92	97
65–	109	98	92	92	90	90	92	88	91
75–	111	98	88	90	85	85	89	90	90
85 and over ...	107	92	83	83	74	73	80	79	81
	FEMALES								
All ages Crude ...	**109**	**101**	**93**	**99**	**94**	**95**	**96**	**96**	**96**
Ages under 65 E.A.R. ...	102	95	86	87	81	79	86	69	77
0–	97	103	89	90	84	78	89	60	76
5–	92	95	75	67	63	57	71	52	58
10–	94	90	80	83	73	70	79	53	63
15–	106	106	95	93	79	76	90	64	71
20–	101	100	97	96	89	85	94	74	81
25–	96	95	90	92	86	80	89	67	75
35–	98	90	84	87	78	76	83	64	72
45–	102	93	86	87	81	80	85	73	78
55–	106	92	85	86	81	82	85	75	81
65–	108	95	86	89	84	84	87	80	84
75–	110	96	87	92	85	86	89	84	86
85 and over ...	107	97	84	86	76	76	83	83	84

Young Children (Ages 1–5).—Table XXVI shows the death-rates of children aged 1, 2, 3 and 4 years, crude rate at 1–5 and equivalent average rate supposing the populations to be equal at each year of age, in 1911–14, 1921–30, each year from 1940 to 1945 and in 1941–45, and then expresses them as percentages of the mean annual rates of 1936–39. Rates including deaths from operations of war are first shown without distinction of sex, but the remainder of the table is based on deaths from causes other than operations of war which give a better indication of the normal trends.

Compared with mean rates in 1936–39, children in their second year (1–2) showed a small improvement in 1940, followed by a sharp rise in 1941, particularly amongst girls, a very pronounced decrease in 1942 to two-thirds of the pre-war levels and a further fall to about half those levels in 1944 and to slightly below these in 1945. The mean rate in 1936–39 was just two-thirds of that in 1931–35, and the mean rate in 1941–45 was again two-thirds of that in 1936–39. Mortality in 1945 was less than a third of that in 1931–35.

In the third year of life (2–3) mortality in 1940 was the same as in 1936–39, but in 1941 it became about 10 per cent. higher, then falling precipitately in 1942 and again in 1944, ended with 44 per cent. decrease by 1945. The mean rate for 1941–45 was better than that of 1936–39 by one-quarter, and little more than half that of 1931–35. Mortality in 1945 was only 40 per cent. of that in 1931–35.

In the fourth year of life (3–4) the increase in mortality in 1941 was very pronounced, and the rapid fall which occurred in subsequent years was not quite so great as at other ages, the decline from 1936–39 levels amounting to about 36 per cent. by 1945. The mean rate for 1941–45 was nearly 20 per cent. below that of 1936–39 and 40 per cent. better than in 1931–35. Mortality in 1945 was about 47 per cent. of that in 1931–35.

In the fifth year of life (4–5) rates in 1940 showed considerable improvement over the pre-war period, but in 1941 there was an excess of ten per cent. for boys and six for girls. A rapid improvement followed in 1942 and subsequent years, ending with a 35 per cent. decrease from 1936–39 rates for boys, and 46 per cent. for girls by 1945. The mean rate for 1941–45 was 35 per ce9t. better than that of 1931–35 for boys and 42 per cent. better for girls.

Abridged life-tables constructed from the death-rates of 1942 and 1945 show that out of 10,000 boys and girls born alive the following numbers would be expected to survive to their fifth birthday, compared with expectations based on death-rates in previous periods (Life Tables 4, 8, 9, 10 and abridged table for 1938). No allowance has been made for mortality due to operations of war in 1942 and 1945, which was about 0·4 per cent. of the total.

Mortality at ages under 5	1871–80	1910–12	1920–22	1930–32	1938	1942	1945
Male	7,341	8,263	8,696	9,007	9,224	9,295	9,382
Female	7,626	8,501	8,918	9,202	9,384	9,436	9,507

Whereas in 1910–12 only 85 per cent. of female infants could be expected to survive five years, in 1945 the expectation had reached 95 per cent. ; and for all infants of both sexes it was 94·4 per cent. According to the abridged life table for 1945 the expectation of life of a female infant on its first birthday exceeded 70 years.

Table XXVI.—Mortality per 1,000 living from all Causes, including and excluding Operations of War, at ages 1–4, 1911–14, 1921–30, 1931–35, 1936–39, 1941–45 and each year 1940 to 1945. Rates per cent. of 1936–39.

Age	1911–14	1921–30	1940	1941	1942	1943	1944	1945	1941–45
	All Causes. Death-rate per 1,000 living. Both Sexes								
1–2	34·06	19·70	8·43	9·27	5·95	5·80	4·57	4·20	5·86
2–3	13·68	8·44	4·55	4·90	3·10	3·12	2·56	2·40	3·20
3–4	8·32	5·18	3·42	3·84	2·57	2·40	2·15	2·00	2·60
4–5	6·14	3·88	2·78	3·20	2·23	2·02	1·81	1·65	2·18
1–5 Crude ...	**15·62**	**9·40**	**4·83**	**5·30**	**3·42**	**3·34**	**2·84**	**2·64**	**3·50**
E.A.R. ...	15·55	9·30	4·80	5·30	3·46	3·34	2·77	2·56	3·46
			All Causes except Operations of War						
	1931–35	1936–39	1940	1941	1942	1943	1944	1945	1941–45
	Death-rate per 1,000 living. Males								
1–2	13·89	9·32	8·89	9·34	6·37	5·94	4·60	4·39	6·02
2–3	6·09	4·34	4·28	4·82	3·27	3·27	2·69	2·48	3·29
3–4	4·22	3·22	3·29	3·78	2·67	2·56	2·20	2·09	2·67
4–5	3·45	2·81	2·64	3·09	2·41	1·97	1·85	1·84	2·24
1–5 Crude ...	**6·87**	**4·96**	**4·81**	**5·25**	**3·63**	**3·45**	**2·90**	**2·78**	**3·59**
E.A.R. ...	6·91	4·92	4·78	5·26	3·68	3·44	2·84	2·70	3·56
	Death-rate per 1,000 living. Females								
1–2	12·27	8·10	7·36	8·51	5·41	5·57	4·20	3·90	5·43
2–3	5·58	3·95	4·00	4·34	2·79	2·88	2·19	2·23	2·87
3–4	3·98	2·88	2·88	3·33	2·38	2·12	1·83	1·82	2·31
4–5	3·25	2·50	2·28	2·64	1·88	1·94	1·50	1·36	1·87
1–5 Crude ...	**6·23**	**4·38**	**4·16**	**4·70**	**3·08**	**3·13**	**2·49**	**2·40**	**3·15**
E.A.R. ...	6·27	4·36	4·13	4·71	3·12	3·13	2·43	2·33	3·12
	Per cent. of rate in 1936–39. Males								
1–2	149	100	95	100	68	64	49	47	65
2–3	140	100	99	111	75	75	62	57	76
3–4	131	100	102	117	83	80	68	65	83
4–5	123	100	94	110	86	70	66	65	80
	Per cent. of rate in 1936–39. Females								
1–2	151	100	91	105	67	69	52	48	67
2–3	141	100	101	110	71	73	55	56	73
3–4	138	100	100	116	83	74	64	63	80
4–5	130	100	91	106	75	78	60	54	75

(86504) C

Table XXVII.—Mortality in Early Childhood: Distribution at Ages 1–2 and 2–5 in 1931–35 and each year 1940 to 1945.

Area	Rates per 1,000 living (both sexes)							Mortality per cent. of 1931–35	Mortality per cent. of national rate
	1931-35	1940	1941	1942	1943	1944	1945	1941-45	1941-45
	Age 1–2 years (second year of life)								
England and Wales	**13·11**	**8·43**	**9·26**	**5·96**	**5·79**	**4·57**	**4·21**	**45**	**100**
South East	10·02	6·52	7·83	4·65	4·49	4·27	3·45	48	82
Greater London	11·38	6·46	8·82	5·05	4·59	4·54	3·22	43	84
Remainder of South East	7·90	6·58	7·03	4·25	4·37	3·99	3·70	59	79
North	17·61	10·38	11·25	7·45	7·48	5·04	4·82	40	121
North I	20·72	9·21	12·23	8·22	7·99	5·46	5·71	38	134
North II	16·59	10·14	11·59	7·61	8·20	5·64	4·53	45	126
North III	14·68	8·63	8·54	7·45	6·94	4·52	4·75	43	108
North IV	18·14	11·90	12·39	7·09	7·42	5·04	4·60	39	122
Midland	12·42	8·40	8·80	5·57	5·82	4·66	4·34	46	98
Midland I	12·56	8·32	9·55	6·04	5·72	4·51	4·48	47	102
Midland II	12·15	8·56	7·41	4·66	6·01	4·99	4·04	44	92
East	8·75	6·25	6·12	5·34	4·89	4·10	3·76	55	82
South West	8·26	7·41	7·26	4·79	4·45	3·93	3·92	59	84
Wales	13·62	9·80	10·71	6·96	5·23	4·25	5·07	47	110
Wales I	14·96	9·56	10·50	6·74	5·31	4·71	5·37	44	111
Wales II	9·48	10·46	11·24	7·50	5·05	3·10	4·30	65	106
County boroughs*	17·08	10·90	12·34	7·08	7·19	5·26	4·84	42	122
Other urban districts*	12·20	8·09	8·51	5·77	5·57	4·16	4·26	46	96
Rural districts*	9·56	6·68	6·69	5·29	5·02	4·26	3·98	53	86
Greater London—									
Administrative County	13·98	†	†	†	5·71	5·80	3·78	†	†
Outer Ring	8·71	†	†	†	4·00	3·87	2·90	†	†
	Ages 2–5 years (third, fourth and fifth years of life)								
England and Wales	**4·42**	**3·60**	**3·99**	**2·63**	**2·50**	**2·18**	**2·03**	**60**	**100**
South East	3·56	3·08	3·28	2·04	1·92	2·02	1·76	61	82
Greater London	3·93	3·67	3·65	2·08	1·96	2·17	1·70	57	84
Remainder of South East	2·98	2·51	2·98	2·00	1·86	1·86	1·82	71	79
North	5·79	4·10	4·80	3·27	3·17	2·41	2·32	55	120
North I	6·36	4·34	5·06	3·68	3·92	2·78	2·54	57	136
North II	5·43	4·05	4·86	3·08	3·26	2·60	2·52	60	123
North III	5·62	3·45	3·78	3·27	3·13	2·05	2·22	52	109
North IV	5·72	4·38	5·30	3·15	2·87	2·45	2·25	56	120
Midland	3·93	3·65	3·85	2·54	2·47	2·01	1·94	65	96
Midland I	4·01	3·74	4·20	2·71	2·55	2·00	2·04	67	101
Midland II	3·78	3·48	3·20	2·19	2·32	2·02	1·75	61	87
East	3·20	2·36	2·83	2·07	2·36	2·06	1·99	71	85
South West	3·07	3·06	3·55	2·49	1·95	1·74	1·81	77	89
Wales	4·85	4·58	4·49	2·91	2·62	2·66	2·47	63	115
Wales I	5·15	4·78	4·95	3·01	2·81	2·81	2·53	63	122
Wales II	3·96	4·04	3·35	2·67	2·14	2·28	2·32	65	96
County boroughs*	5·37	4·26	5·37	3·25	3·02	2·33	2·20	60	121
Other urban districts*	4·45	3·36	3·63	2·63	2·52	2·15	2·11	59	98
Rural districts*	3·34	2·94	2·95	2·14	2·12	1·99	1·94	67	84
Greater London—									
Administrative County	4·47	†	†	†	2·45	3·02	2·03	†	†
Outer Ring	3·39	†	†	†	1·71	1·72	1·52	†	†

* Excluding Greater London. † Populations not available.

Table XXVII shows the regional distribution of death-rates of children without distinction of sex at ages 1–2 and 2–5 in 1931–35 and each year 1940 to 1945, and compares the mean rates in 1941–45 with the national rate and with rates ten years previously. The relative mortality of the regions in 1941–45 was very similar at the two age periods, the percentages of the national rate being 84 for Greater London and 79 for the rest of the South East at both ages. The Northern regions, except North II, registered greater improvement over 1931–35 rates than the Southern regions, except Greater London, and excess over the national rate for the North as a whole was about 20 per cent.,

compared with over 30 per cent. at each age period ten years before. The East and South West on the other hand gave rates about 84 and 87 per cent. of the national rate, whereas in 1931–35 the proportions were around 70 and 66 per cent.

County borough rates fell during the ten years to a greater extent than those of rural districts at both ages, with the result that the excess over rural rates in terms of the national rate taken as 100 was only 36 at ages 1–2 and 37 at 2–5, compared with 57 and 46 respectively in 1931–35.

Table XXVIII gives the death-rates at ages 1–5 from the principal infective causes in 1911–20 and each year since 1921. Measles mortality per million living varied around 1,000 from 1923 to 1934, compared with more than twice that rate in 1911–20. It then began to fall and since 1938 has not reached 300 in any year, the average for years 1940 to 1945 being only 163. Scarlet fever deaths diminished to about the same extent, the average rate during 1940–45 being 17, compared with the 1911–20 level of 253. Whooping cough gave an average rate of 846 in the ten years 1921 to 1930, compared with the 1911–20 rate of 1,091 ; but after 1932 it did not reach 500 in any year, the average for the war years being 197. Diphtheria mortality was 811 per million in 1911–20 and fell to a new level between 330 and 600 during the years 1923 to 1939. No improvement occurred in 1940 or 1941, but thereafter the rate declined steadily year by year to 96 in 1945. Comparison of average rates in 1944–45 with those in 1938–41 for the four diseases shows that the relative decrease was 71 per cent. for diphtheria compared with 56 for measles, 62 for scarlet fever and 52 for whooping cough.

Cerebro-spinal fever causes a death-rate at 1–5 years which ranges between 20 and 85 per million in normal years but there have been three triennial periods since 1911 in which epidemics raised the rate over 100, namely 1915–17, 1931–33 and 1940–42. In 1940 it reached the very high level of 248, and in 1941 was 221, falling thereafter to 131, 79, 67 and 48 in succeeding years.

Tuberculous meningitis was responsible for a rate of 696 in 1911–20 and around 500 in the next five years, and it continued to fall to 269 by 1939. There was little change in 1940 but a sharp increase occurred in 1941, followed by a decrease to 254 by 1945. Other forms of tuberculosis (which are analysed further in Table XXIX) showed a similar increase early in the war, after which mortality returned to about the level attained in 1938–39.

During 1911–20 bronchitis, pneumonia and influenza were together productive of five deaths annually out of each 1,000 children at ages 1–5, which means that out of every 1,000 reaching their first birthday, 20 died of these causes before attaining age five. After the epidemics of 1929 mortality was less than half as great, and in 1935–38 the rates were such that only six out of 1,000 children reaching age one died of respiratory diseases and influenza before age five. After 1941 a further rapid improvement occurred, so that at 1942–45 rates, less than three per 1,000 were dying from these causes between ages one and five. The annual death-rate from enteritis and diarrhœa also reached a new low level in 1942–45, about one-quarter of that which prevailed during 1922–29, and one-eleventh of that in 1911–20.

Table XXIX gives the death-rates in 1936–39, each year 1940 to 1945, and in 1943–45 for a number of other causes, and differentiates the tuberculosis deaths still further. The residual group " other causes " consists mainly of the infective conditions shown in the preceding table, for example the 1945 rate of 1,319 includes 1,059 due to causes specified therein, leaving 260 from causes not shown in either table.

(86504) C 2

Table XXVIII.—Death-rates from various Infective Diseases per Million living at Ages 1–5 Years in 1911–20 and each year 1921 to 1945.

Year	Measles	Scarlet Fever	Whooping Cough	Diphtheria	Cerebro-Spinal (Meningococcal) Meningitis	Tuberculosis		Influenza	Bronchitis and Pneumonia	Enteritis and Diarrhœa
						Meninges and Central Nervous System	Others			
1911–20... ...	2,279	253	1,091	811	55	696	809	581	4,441	1,212
1921	570	173	790	760	37	486	509	186	3,454	1,015
1922	1,447	201	1,702	706	40	537	507	606	4,662	413
1923	1,260	148	690	453	23	490	474	111	2,822	491
1924	1,093	131	663	428	26	479	470	363	3,520	435
1925	1,254	151	1,026	462	33	473	444	151	3,169	478
1926	802	92	694	463	34	439	400	132	2,909	515
1927	899	79	688	438	53	462	399	462	3,489	367
1928	1,061	81	530	492	41	390	361	95	2,351	377
1929	913	89	1,307	521	64	419	371	489	4,117	429
1930	1,080	102	371	539	62	386	312	49	1,873	283
1931	873	76	500	417	141	396	270	221	2,599	278
1932	935	81	557	378	120	394	286	146	2,016	273
1933	540	113	457	385	104	367	228	280	2,075	308
1934	1,057	145	413	593	74	350	215	57	1,840	218
1935	371	82	284	519	67	303	170	74	1,435	205
1936	753	72	382	453	70	285	180	76	1,501	182
1937	277	57	340	455	83	284	194	170	1,592	195
1938	424	58	218	412	68	282	168	60	1,305	181
1939	68	30	212	339	53	269	137	70	880	150
1940	208	19	128	398	248	276	130	160	1,356	162
1941	273	25	475	482	221	384	239	64	1,188	160
1942	111	12	133	303	131	302	164	47	719	113
1943	176	19	201	211	79	285	178	84	744	101
1944	56	14	144	140	67	259	153	40	545	109
1945	156	11	104	96	48	254	158	39	503	102

Table XXIX.—Deaths from various Causes per Million living at ages 1–5 years in 1936–39, each year 1940 to 1945, and 1943–45 (both sexes).

International List No.	Cause of death	1936–39*	1940	1941	1942	1943	1944	1945	1943–45
	Tuberculosis :—								
13	Respiratory system	49	44	77	59	61	61	59	60
14	Meninges and central nervous system	280	276	384	302	285	259	254	266
15	Intestines and peritoneum	50	47	62	44	45	37	36	39
16–22	Other tuberculous diseases ...	71	69	100	60	72	55	62	63
45–55	Cancer and other malignant tumours	43	45	51	47	45	46	50	47
58	Rheumatic fever	12	11	10	8	7	8	11	9
70	Rickets	14	8	10	6	3	3	4	3
81	Meningitis (non-meningococcal) ...	80	68	75	55	55	49	38	47
85	Epilepsy	21	22	34	26	23	23	26	24
86	Convulsions	54	51	42	33	31	25	22	26
89	Diseases of ear and mastoid antrum ...	65	43	35	31	38	35	28	34
90–95	Heart diseases	22	14	13	14	11	12	9	11
105	Diseases of larynx	22	27	23	17	24	17	18	19
115 (*b*) (*c*)	Diseases of tonsils, pharynx, etc. ...	59	38	37	45	38	26	23	29
118 : 1	Inflammation of stomach	10	10	14	9	7	7	4	6
121	Appendicitis	68	56	48	39	38	48	41	43
122	Hernia, intestinal obstruction ...	37	37	44	32	29	32	27	29
130	Acute nephritis	21	20	24	20	20	18	17	18
157	Congenital malformations	102	115	133	122	123	126	117	122
181	Accidental burns	165	177	156	144	126	112	98	112
183	Accidental drowning	52	64	74	82	78	79	81	79
197	Operations of war	—	334	316	61	47	137	45	76
	Other violence	216	241	288	260	225	236	253	238
	Other causes	3,160	3,011	3,247	1,903	1,910	1,387	1,319	1,532
	All causes	**4,674**	**4,828**	**5,296**	**3,424**	**3,342**	**2,839**	**2,642**	**2,933**

* Rates for 1936–39 are corrected to the 1940 classification.

Respiratory tuberculosis death-rate was 60 per million in 1943–45, compared with 49 in 1936–39 ; but for tuberculosis of the intestines and peritoneum the rate declined after 1941 to 36 in 1945, compared with 50, and there was also an improvement for other tuberculosis.

The causes registering increases in death-rates in 1943–45 compared with 1936–39, besides respiratory tuberculosis, were malignant neoplasms, epilepsy, congenital malformations, accidental drowning and other violence except burns. Of these the small increase for epilepsy was offset by a much larger decrease in the rate attributed to convulsions, and the explanation probably lies in improved certification. Accidental drowning deaths were enhanced by the use of tanks for emergency water supply in which many fatalities of young children occurred. In 1945, for example, there were at least 39 persons drowned in that way, as Table 25 shows. Operations of war accounted for rates exceeding 300 in 1940–41 and averaging 72 in the other years.

All the other causes distinguished in Table XXIX showed decreases in 1943–45 compared with the pre-war period ; and for most of them the fall was not interrupted by increases in 1940–41, exceptions being diseases of the larynx, gastritis, hernia, acute nephritis and burns. For rickets, non-meningococcal meningitis, convulsions, diseases of the ear and mastoid, tonsils, pharynx, appendix and heart, and accidental burns, the death-rates in 1943-45 were no more than two-thirds of those in 1936–39. Rheumatic fever mortality averaged eight per million in 1942–44 compared with 12 in the pre-war period, but the rate increased again in 1945.

Children of School Age (Ages 5–15).—Table XXX shows the trend of death-rates of boys and girls aged 5–10 and 10–15 from all causes and from nine separate causes. For boys the rates exclusive of deaths due to operations of war changed little in 1940–41 from the pre-war levels, and thereafter declined rapidly by 1945 to levels 32 per cent. below that of 1936–39 at ages 5–10 and 20 per cent. below at 10–15. For girls the decline was more pronounced, amounting by 1945 to 43 per cent. at 5–10 and 30 per cent. at 10–15.

Abridged life tables for 1942 and 1945 show that out of 10,000 boys and girls born alive in those years the following numbers would be expected to survive to their 15th birthday, compared with the expectation based on death-rates of previous periods (Life Tables 4, 8, 9, 10 and abridged table for 1938).

(86504) C 3

	1871–80	1910–12	1920–22	1930–32	1938	1942	1945
Males	6,964	8,046	8,492	8,836	9,079	9,164	9,271
Females	7,250	8,277	8,707	9,042	9,250	9,331	9,422

According to the death-rates experienced in 1945, more than 94 per cent. of female infants born had the expectation of living to their 15th birthday, compared with 72½ per cent. 70 years before, 83 per cent. in 1910–12 and 90½ per cent. in 1930–32. No allowance has been made for mortality in 1942 and 1945 due to operations of war, which accounted for 1·14 and 0·88 per cent. of all deaths under 15 in those years respectively.

At **ages 5–10,** diphtheria was the principal cause of death in 1936–39, when it accounted for 21 per cent. of the mortality of boys and 27 per cent. of that of girls. From 1940 it was displaced by violence as chief cause amongst boys and from 1943 onwards this occurred also for girls. After 1943 diphtheria fell to third place, tuberculosis being next in importance to violence as cause of mortality in 1944 and 1945. The decline in diphtheria was accelerated after 1941, and by 1945 the rate compared with the pre-war level had fallen by 79 per cent. both for boys and girls. This rapid fall was coincident with the introduction of large scale immunisation at those ages.

Table XXX.—Death-rates at ages 5–10 and 10–15 per Million living from Various Causes, 1936–39, each year 1940 to 1945, and 1943–45.

Cause	1936–39	1940	1941	1942	1943	1944	1945	1943–45
AGES 5–10								
MALES								
Meningitis (except Tuberculous)	58	116	114	63	57	39	30	42
Diphtheria	411	371	345	258	171	120	87	126
Tuberculosis	170	160	214	182	171	160	157	163
Pneumonia	150	110	110	75	78	66	61	68
Rheumatic fever and Endocarditis ...	77	57	49	35	49	67	55	57
Disease of ear and mastoid antrum ...	57	26	16	24	31	30	10	24
Appendicitis	85	78	64	71	48	67	62	59
Violence (except war operations) ...	361	399	523	486	481	494	498	491
All Causes (except war operations) ...	**1,924**	**1,851**	**1,976**	**1,611**	**1,553**	**1,439**	**1,313**	**1,434**
Operations of war	—	268	274	70	58	136	42	79
FEMALES								
Meningitis (except Tuberculous)	51	96	88	54	43	33	24	33
Diphtheria	450	375	367	272	164	122	95	127
Tuberculosis	155	154	219	150	158	152	163	158
Pneumonia	133	101	104	69	66	48	43	52
Rheumatic fever and Endocarditis ...	88	72	50	44	61	60	59	60
Disease of ear and mastoid antrum ...	47	28	21	27	28	22	13	21
Appendicitis	61	51	44	37	42	42	43	42
Violence (except war operations) ...	172	214	247	231	180	224	209	204
All Causes (except war operations) ...	**1,683**	**1,542**	**1,595**	**1,263**	**1,135**	**1,055**	**966**	**1,052**
Operations of war	—	261	267	50	49	118	42	70
AGES 10–15								
MALES								
Meningitis (except Tuberculous)	29	63	52	41	20	25	13	20
Diphtheria	99	88	70	59	52	41	28	41
Tuberculosis	139	133	155	145	119	125	138	127
Pneumonia	66	54	51	46	43	44	33	40
Rheumatic fever and Endocarditis ...	114	86	76	65	72	78	80	77
Disease of ear and mastoid antrum ...	33	18	24	22	22	14	17	18
Appendicitis	76	62	66	59	56	71	47	58
Violence (except war operations) ...	234	266	350	280	265	279	302	282
All Causes (except war operations) ...	**1,220**	**1,174**	**1,202**	**1,079**	**1,017**	**1,006**	**970**	**998**
Operations of war	—	305	296	83	79	175	60	104
FEMALES								
Meningitis (except Tuberculous)	27	52	51	30	25	19	15	20
Diphtheria	105	101	86	64	50	33	25	36
Tuberculosis	193	198	215	180	175	167	180	174
Pneumonia	62	50	45	38	50	46	32	43
Rheumatic fever and Endocarditis ...	151	110	104	86	112	104	92	103
Disease of ear and mastoid antrum ...	31	14	13	17	22	20	15	19
Appendicitis	45	47	33	44	36	38	34	36
Violence (except war operations) ...	77	93	105	88	99	89	94	94
All Causes (except war operations) ...	**1,083**	**1,015**	**977**	**863**	**901**	**793**	**754**	**817**
Operations of war	—	295	264	52	74	125	34	78

Tuberculosis mortality increased considerably in 1941 and fell back to about the pre-war level in 1942, continuing to decline thereafter for boys but not for girls, whose rate in 1943–45 was slightly above that of 1936–39. Pneumonia rates were falling quickly before the war, and in 1939 reached low levels of 91 and 84 for boys and girls respectively. They increased to 110 and 104 in 1941, and then declined further to 61 and 43 by 1945, which were one-third and one-quarter of the average rates of 1934–36 ten years earlier. Ear and mastoid disease rates showed no consistent change from 1940 to 1944, but then fell to new low levels in 1945, this being probably the result of penicillin therapy becoming more widely available. Appendicitis rates which in 1921–30 were 86 and 78 for boys and girls respectively, fell to 64 and 44 by 1941 but showed no consistent change thereafter. Rheumatic fever and endocarditis likewise declined from levels above 100 in 1931–35 to 35 and 44 in 1942, after which the rates increased somewhat, being 57 and 60 in 1943–45.

Deaths from violent causes other than operations of war increased both amongst boys and girls in 1940, and still more in 1941 when rates about 45 per cent. above 1936–39 levels were recorded. The increase for boys was due in the main to motor vehicle accidents and drowning, and for girls to motor accidents and burns (*see* pages 247, 260 and 264). In subsequent years boys' mortality remained at the high level of about 490 per million, 37 per cent. above the pre-war level, but for girls it improved to 204 in 1943–45, 19 per cent. above that level.

At **ages 10–15** violence other than operations of war accounted for more deaths of boys than any other cause in each year 1940–45, as was the case in 1936–39, and the rate was enhanced by 50 per cent. in 1941, and by about 20 per cent. subsequently. Amongst girls this cause took fourth place in the pre-war period, moving up to second place in 1941–42, third place in 1943–44 and again second in 1945.

Tuberculosis ranked second to violence for boys and was chief cause of death for girls each year, as in 1936–39. After increasing from the pre-war level in 1940 and 1941, the rates declined each year to 1944 and then fell back, the resulting rates for 1943–45 showing 10 per cent. improvement over those of 1936–39. Rheumatic fever and endocarditis ranked next to violence and tuberculosis in each year for boys, excepting 1940 when it was surpassed by diphtheria ; and for girls it ranked second in most years. The rates changed little during 1940–45, remaining at levels about two-thirds of those in 1936–39, and this was true also of diseases of the ear and mastoid. Pneumonia rates continued to fall, without any interruption in 1940–41, and by 1945 they reached one-third of the levels of 1931–35.

Table XXXI shows that when the mean annual death-rate at ages 5–15 in 1941–45 is expressed as a percentage of that in 1931–35 the national rate improved by 27 per cent. In 1931–35 it was 177 per million living, in 1936–38 it was about 150 and fell to 125 in 1939 ; it then increased to 170 in 1941, falling again to 123 in 1942–44 and 105 in 1945. The excess of county borough mortality over that in rural districts varied greatly owing to deaths from operations of war being more concentrated on the former, and from other causes such as evacuation of school children. In 1931–35 this excess expressed in terms of the national rate taken as 100, was 26 ; in 1939 it was 23 but it rose to 57 in 1940 and 76 in 1941, and in successive years thereafter fell to 45, 30, 16 and 17. Variation in the excess of urban district over rural mortality was not so pronounced ; it increased from 13 per cent. of the national rate in 1931–35 to 22 in 1939, and during the six years of war it was 13, 21, 14, 12, 7, 11.

(86540) C 4

Regional mortality showed much less variation in 1945 than in pre-war years, ranging from 88 per cent. of the national rate in Southern regions other than Greater London to 110 in North IV, 114 in North I and 121 in Wales I, compared with 78–81, 118, 128, 110 per cent. for the same regions in 1931–35 and 81–89, 124, 142, 101 per cent. in 1938.

Table XXXI.—Mortality per 100,000 Living at 5–15 years in Geographical Regions and different classes of Area, each year 1940 to 1945. Rates in 1941–45 per cent. of those in 1931–35 and of National Rate.

	Rates per 100,000 living (both sexes)						1941–45 Per cent. of	
	1940	1941	1942	1943	1944	1945	1931–35	National Rate
England and Wales	**167**	**170**	**126**	**122**	**121**	**105**	**73**	**100**
Greater London	226	179	105	117	149	106	80	101
Remainder of South East ...	119	137	111	105	108	92	76	85
North I	171	208	171	163	139	120	71	124
North II	136	202	133	139	118	109	67	109
North III	149	149	131	133	120	103	59	98
North IV	199	225	150	130	124	115	71	115
Midland I	180	172	133	118	117	100	77	99
Midland II	145	131	109	107	104	107	73	87
East	119	134	126	109	101	90	76	87
South West	156	154	114	114	99	92	85	91
Wales I	188	183	124	135	129	127	72	109
Wales II	152	134	116	101	114	106	68	89
County boroughs*	213	245	161	140	125	111	77	119
Other urban districts*	139	151	122	118	114	105	69	95
Rural districts*	118	116	104	103	106	93	68	81

* Excluding Greater London.

Differences between North and South in mortality of children of school age had become considerably reduced, as was apparent also in 1944, when the corresponding percentages of the national rate were 82–89, 103, 115, 107.

Young Adults (Ages 15–25).—Table XXXII shows the trend of the death-rates from 1931 to 1945 at ages 15–20 and 20–25, deaths due to operations of war, and of non-civilians, being excluded as indicated. At 15–20, male mortality increased from 2·01 per 1,000 in 1936–39 to 2·31 in 1941 and then declined to 1·83 in 1943–45; female mortality rose from 1·75 to 1·85 and then fell to 1·45, the improvements by 1943–45 being greater than for males whose rate was affected unfavourably by removal of about a quarter of their number into the services. At 20–25, the male death-rate increased from 2·77 in 1936–39 to an altogether higher level around 4·7, whereas the female rate scarcely changed from 2·39 until 1942 when it began to fall, reaching 2·04 in 1945. The effect of physical selection on the male rate was evidently very great, as was pointed out on pages 54 and 55, the civilian population by 1945 containing only 29 per cent. of the total males at these ages and being therefore heavily weighted by unfit men. The effect of selection on the female rate at 20–25 was only slight, the death-rate in the whole populations, inclusive of non-civilians, being less than the civilian rate by 0·14 in 1942 and by 0·19 in 1945.

In the table below, the numbers of deaths registered in England and Wales of males aged 20–25 are given for 1939, 1942 and 1945, with distinction of the non-civilians in the last two of these years, from nine principal causes; and the civilian death-rates from each cause are compared with the rate amongst all males in 1939.

Cause of death	Number of deaths of males aged 20–25 in England and Wales					Rate per million living		
	1939	1942		1945		1939	1942	1945
	Total	Civilian	Non-civ.	Civilian	Non-civ.	Total	Civilian	Civilian
Tuberculosis, all forms	1,184	1,036	134	963	130	793	1,911	2,027
Heart diseases and rheumatic fever ...	223	254	22	210	24	149	469	442
Nephritis, all forms	116	93	18	87	25	78	172	183
Cancer, all sites	107	73	30	75	37	72	135	158
Epilepsy	81	76	4	52	4	54	140	109
Pneumonia and influenza	187	114	30	73	18	125	210	154
Appendicitis	95	21	32	29	19	64	39	61
Violent causes, except operations of war	1,140	387	532	335	296	764	714	705
Other causes, except operations of war	714	467	216	398	166	478	862	838
All causes, except operations of war...	3,847	2,521	1,018	2,222	719	2,577	4,651	4,678
Operations of war	108	55	2,645	34	1,397	72	101	72
Population (thousands)	1,546	542	1,110	475	1,157	1,493	542	475

Table XXXII.—Mortality from all Causes except Operations of War at Quinquennial Age-groups after 15, 1931–35, 1936–39, 1943–45 and each year 1940 to 1945. (Civilians only from 3rd September, 1939, for males and from 1st June, 1941, for females.)

	Death-rate per 1,000 living								
	1931–35	1936–39	1940	1941	1942	1943	1944	1945	1943–45
Males									
15–	2·45	2·01	2·15	2·31	2·01	2·02	1·73	1·74	1·83
20–	3·15	2·77	4·18	4·83	4·65	4·95	4·56	4·68	4·73
25–	3·16	2·76	3·38	4·08	3·94	4·21	4·47	4·11	4·26
30–	3·47	3·01	3·39	3·76	3·58	3·79	3·76	3·56	3·70
35–	4·60	4·00	4·33	4·28	3·95	4·02	3·85	3·56	3·81
40–	6·20	5·57	6·00	5·59	5·14	5·28	5·03	4·64	4·98
45–	9·23	8·31	9·05	8·10	7·54	7·67	7·32	7·04	7·34
50–	13·15	13·06	14·47	12·57	11·36	12·06	11·30	11·16	11·51
55–	19·27	19·30	22·29	19·69	17·98	18·47	17·61	17·52	17·86
60–	28·78	29·76	33·37	29·53	27·13	27·52	27·61	27·53	27·55
65–	45·86	44·61	49·49	44·96	42·45	42·28	41·65	41·37	41·76
70–	73·24	72·24	76·84	68·34	63·32	64·04	62·19	62·50	62·90
75–	117·55	118·17	129·72	115·04	104·31	105·47	99·14	98·38	100·89
80–	177·55	178·78	201·09	178·65	158·45	162·25	155·36	155·83	157·71
85 and over ...	278·91	281·77	302·08	258·02	232·64	233·94	211·46	204·65	215·88
Females									
15–	2·22	1·75	1·85	1·85	1·67	1·63	1·39	1·33	1·45
20–	2·77	2·39	2·41	2·39	2·33	2·31	2·13	2·04	2·16
25–	2·98	2·52	2·41	2·46	2·39	2·31	2·17	2·04	2·18
30–	3·21	2·70	2·57	2·52	2·30	2·47	2·31	2·12	2·30
35–	3·90	3·30	3·20	2·90	2·76	2·83	2·52	2·51	2·62
40–	4·80	4·23	4·19	3·90	3·57	3·72	3·35	3·24	3·43
45–	6·66	5·99	6·09	5·66	5·29	5·27	4·86	4·77	4·97
50–	9·36	8·74	9·01	8·05	7·35	7·54	7·08	7·02	7·22
55–	13·59	12·61	13·27	11·83	11·05	11·02	10·26	10·29	10·52
60–	21·07	20·33	21·36	18·37	16·82	17·03	16·30	16·41	16·58
65–	33·52	32·15	34·61	30·56	27·76	28·22	26·70	26·49	27·12
70–	55·77	53·09	57·61	50·46	45·37	47·33	44·38	45·35	45·67
75–	91·12	88·51	97·01	84·34	76·01	78·92	73·22	74·48	75·49
80–	145·76	136·97	152·86	134·12	120·51	129·30	121·35	120·32	123·54
85 and over ...	244·96	248·56	265·94	240·93	208·91	213·34	188·34	189·48	196·45

The first five causes are conditions often present for years before death and which would lead to rejection or discharge from the services, whereas the next three are conditions liable to cause death quickly in young men previously healthy. The aggregate death-rate from the first group in 1939 was 1,146 per million, and in the residual civilian population three years later, after taking away 67 per cent. believed to be free from those diseases, the rate was 2,827.

Amongst females of the same ages the combined death-rate from these causes fell from 1,433 per million in 1939 to 1,388 in 1942, so the expected rate amongst all males in 1942 was 1,069. Had there been complete rejection or discharge of every man destined to die of these conditions in 1942, the civilian death-rate would have been enhanced to an estimated level, 1,652/542 or 3·05 times this "expected" rate. Actually, it increased to 2,827 or 2·64 times the expected value, from which it is evident that elimination from the services of men likely to die of these conditions was very effective.

For influenza and pneumonia, the civilian rate in 1942 was 210, compared with a total rate of 125 in 1939, amongst males aged 20–25, whereas the female rate at the same ages decreased from 116 to 76. It is apparent that either selection left behind many men more liable to die of these causes in the civilian population, or the latter were more exposed to risk; probably both causes were operative. In 1945 the excess was not so pronounced. Appendicitis and accidents showed no increase in mortality resulting from selection, the civilian rates in 1942 being actually lower than the total rates in 1939.

Adults aged 25–50.—The distortion of civilian death-rates of men due to physical selection and discharge increased as the war progressed and affected one age-group after another as successive groups were called up for service. Table XXXII shows, for example, that in 1931–35 the death-rate of males increased by the following increments at successive quinquennial groups of age, starting from 15–20 and ending at 45–50: 0·70, 0·01, 0·31, 1·13, 1·60, 3·03. In 1936–39, the age-group 20–25 was already slightly affected by the recruitment in 1939, and the increments were: 0·76, — 0·01, 0·25, 0·99, 1·57, 2·74. In 1940, the 25–30 group was also affected, producing the sequence: 2·03, — 0·80, 0·01, 0·94, 1·67, 3·05; and in 1941 it became: 2·52, — 0·75, — 0·32, 0·52, 1·31, 2·51. The rate at ages 30–35 continued to approach that of the next higher group until in 1945 their rates were equal, the series of increments being: 2·94, — 0·57, — 0·55, 0, 1·08, 2·40.

In the table below, civilian male death-rates (excluding operations of war) are expressed in terms of the corresponding death-rates of females of the same age-group, using the civilian female rates of Table XXXII as the basis in 1941 onwards, except at age-group 20–25, where total rates are substituted (viz., 2·34, 2·19, 2·09, 1·93, 1·85, in the five years). At other ages the female rates were not appreciably different whether based on civilians only or on all females.

Ages	Death-rates of civilian males per cent. of those of females							
	1931–35	1936–39	1940	1941	1942	1943	1944	1945
15–	110	115	116	125	120	124	124	131
20–	114	116	173	206	212	237	236	253
25–	106	110	140	166	165	182	206	201
30–	108	111	132	149	156	153	163	168
35–	118	121	135	148	143	142	153	142
40–	129	132	143	143	144	142	150	143
45–50	139	139	149	143	143	146	151	148

The ratios, R, of total to civilian population of males of the successive age-groups in 1945 were 1·31, 3·44, 2·76, 1·90, 1·40, 1·18, 1·05. If it be supposed that selection had the effect of withdrawing from the population men with a potential death-rate x times that of the average man of that age, then the civilian death-rate would be R — x (R — 1) times the total death-rate expected

if there had been no withdrawal.* The best estimate available of the total death-rate expected for males in 1945 is the male death-rate of 1936–39 modified in the same proportion as the female rate was modified, that is to say multiplied by the ratio of female rate in 1945 to female rate in 1936–39. This gives the equation :—

$$R - x\,(R-1) = \frac{\text{Civilian male rate in 1945}}{\text{Total expected male rate in 1945.}} = \frac{\text{Figure in 1945 column of table.}}{\text{Figure in 1936–39 column of table.}}$$

and by substituting the successive values of R given above, the values of x at each age-group are as follows :—

Age-group	Equation for x	Value of x
15–20	1·31 − 0·31x = 131/115 = 1·14	0·55
20–25	3·44 − 2·44x = 253/116 = 2·18	0·52
25–30	2·76 − 1·76x = 201/110 = 1·83	0·53
30–35	1·90 − 0·90x = 168/111 = 1·51	0·43
35–40	1·40 − 0·40x = 142/121 = 1·17	0·57
40–45	1·18 − 0·18x = 143/132 = 1·08	0·56

The average value of x at 15–30 was 0·53 and at 30–45 it was 0·52, and this constancy of x despite the very different proportions (R − 1)/R in the services, makes it highly probable that the distortion of sex-ratios shown in the table resulted in the main from selection produced by medical examination before entry together with discharge of those proving unfit. The value x = 0·53 implies that the combined effect of these selections was to take and keep in the services men whose average rate of mortality (not directly due to operations of war) would have been 53 per cent. of the average rate for their age if all had remained in civilian conditions of life. How much of this selection was accomplished by rejection and how much by subsequent discharge cannot be estimated.

If the same method is applied to year 1942, using 1939 and 1942 rates of females as the basis for estimating the expected male death-rate, this expected rate at ages 20–25 was 2,552 per million (excluding operations of war as above), and the actual civilian rate was 4,651. The value of R in 1942 at this age was 3·05, whence x = 0·60, rather higher than for 1945. If violent causes of death are omitted as well as those due to operations of war, both amongst males and females, the expected death-rate of males from disease only in 1942 was 1,839, and the actual civilian rate 3,937, giving x = 0·44. This implies that the average potential rate of mortality from disease of the men aged 20–25 accepted and kept in the services was less than half of the general average to be expected. As pointed out in the previous section, for mortality due to tuberculosis, heart diseases, nephritis and epilepsy R − x (R − 1) had the value 2·64, giving x the value of only one-fifth.

* If d = deaths of civilian males, D = deaths of all males and p = civilian male population at the specified ages, then according to the definitions of R and x,

$$\frac{D-d}{Rp-p} = \frac{D}{Rp}x. \quad \text{This gives } \frac{d}{D} = 1 - \frac{R-1}{R}x, \text{ and leads to the ratio}$$

$$\frac{\text{Death-rate of civilians}}{\text{Expected total death-rate}} = \frac{d}{D} \times \frac{Rp}{p} = R - (R-1)\,x.$$

According to abridged life tables for 1942 and 1945, the numbers of females expected to survive to age 50 out of 10,000 reaching their 15th birthday would be as follows, in comparison with similar proportions based on the death-rates of earlier periods (Life Tables 4, 8, 9, 10) :—

	1871–80	1910–12	1920–22	1930–32	1942	1945
Females	7,185	8,322	8,528	8,732	9,013	9,118

Since, as shown in a previous section, 9,331 female infants out of 10,000 born were expected to reach age 15 at 1942 rates, this means that 84 per cent. of female infants born in 1942 had the expectation of living 50 years. Thirty years before, in 1910–12, only 69 per cent. had that expectation. By 1945, this proportion had increased further to 86 per cent. No allowance has been made for mortality in 1942 and 1945, due to operations of war, which in those years accounted for 2·3 and 2·0 per cent. respectively of all civilian deaths of females between ages 15 and 50, nor for the slight effect of using civilian death-rates at ages 20–25.

After exclusion of deaths from operations of war, the mean annual death-rates of females in 1943–45 at ages between 25 and 50 (Table XXXII) when expressed as percentages of the corresponding rate in 1936–39, were :—25–30, 86 ; 30–35, 85 ; 35–40, 79 ; 40–45, 81 ; 45–50, 83. The relative fall was greater between 35 and 50 than at 25–35. In 1939 and 1945 the principal causes of death at these two age periods (1940 classification used for 1939 and non-civilians excluded in 1945) were as follows :—

Deaths of females aged 25–35			Deaths of females aged 35–50		
	1939	1945		1939	1945
Tuberculosis	2,735	2,343	Cancer	4,557	4,567
Heart diseases	950	726	Heart diseases	3,046	2,459
Maternal causes	1,077	577	Tuberculosis	2,222	2,112
Cancer	569	535	Respiratory diseases ...	1,554	1,268
Respiratory diseases ...	619	417	Intra-cranial vascular lesions	879	924
Violence (except war) ...	486	404	Urino-genital	1,191	891
Urino-genital	423	310	Digestive system	1,117	816
Digestive system	407	297	Violence (except war) ...	957	804
All others (except war) ...	1,465	1,073	All others (except war) ...	3,996	3,148

At ages 25–35 the causes contributing most to the decline in mortality from 1939 to 1945 were complications of childbearing, tuberculosis, heart and respiratory diseases. At 35–50, diseases of the heart, respiratory, digestive and genito-urinary systems all contributed largely, but tuberculosis deaths decreased only slightly, cancer deaths remained stationary and cerebral hæmorrhage increased. These causes are dealt with individually later in this Review.

Adults aged 50 and over.—Table XXXII shows the trend of death-rates, excluding those due to operations of war, at quinquennial age-groups between 50 and 85, and at 85 upwards.

Males between ages 50 and 60 showed no appreciable change between 1931–35 and 1936–39, and at 60–65, 75 and over, their death-rates increased slightly. Females, however, registered improvements in 1936–39 at every age-group

except 85 and over. In 1940 all the sex-age groups over 50 showed considerable increases, but death-rates then fell substantially, reaching levels in 1942 which were far below those of 1936–39. After a slight set-back in 1943, further improvement occurred at most ages and the rates for 1945 were appreciably better than for 1942, except amongst males aged 60–65 and females aged 70–75 and 80–85.

Expressing the rates in 1936–39 and 1943–45 as percentages of those in 1931–35, males and females present considerable differences.

In the first period male rates did not change appreciably except for a three per cent. increase at 60–65 and corresponding decrease at 65–70, whereas female

Age-group	Per cent. of 1931–35				Per cent. of 1936–39			
	1936–39		1943–45		1942		1945	
	M	F	M	F	M	F	M	F
50– ...	99	93	88	77	87	84	85	80
55– ...	100	93	93	77	93	88	91	82
60– ...	103	96	96	79	91	83	93	81
65– ...	97	96	91	81	94	86	93	82
70– ...	99	95	86	82	88	85	87	85
75– ...	101	97	86	83	88	86	83	84
80– ...	101	94	89	85	89	88	87	88
85 and over	101	101	77	80	83	84	73	76

rates fell by seven per cent. at 50–60 and about five per cent. between 60 and 80. During the war period, however, the death-rates declined greatly for each sex of every age-group, with the result that the improvement in the whole period from 1931–35 to 1943–45 ranged from four per cent. for males aged 60–65 to 23 per cent. for females aged 50–60. Comparison of 1945 rates with the pre-war levels of 1936–39 shows that the war-time decline at ages 55–70 was only half as great for men as for women, whereas at ages 70–85 it approximated to about 15 per cent. for each sex.

The expectations of life at ages 50 and 65, according to abridged life tables based on the estimated rates of mortality in 1942 and 1945 are compared below with those in earlier periods (Life Tables 4, 8, 9, 10) :—

Age	Sex	1871–80	1910–12	1920–22	1930–32	1942	1945
50	Males	18·9	20·3	21·4	21·6	22·5	22·7
	Females	20·7	22·5	23·7	24·2	26·0	26·2
65	Males	10·6	11·0	11·4	11·3	12·1	12·3
	Females	11·4	12·4	12·9	13·1	14·3	14·5

Despite the inclusion of deaths from war operations in the rates for 1942 and 1945, with the consequent assumption that exposure to that additional risk would continue in every year of life, the expected duration of life after 50 showed an increase since 1931 of one year for males and two years for females. In the decade preceding 1931 there had been little change in these expectations.

Tables XXXIII and XXXIV compare the death-rates from certain causes at four age periods over 50 in 1940–42 and 1943–45 with those of 1931–33 and 1936–38, all rates being expressed in terms of the classification in use since 1940.

At **ages 50–55,** cancer accounted for 15 per cent. of the male death-rate in 1931–33, but the rate increased both absolutely and relatively until it formed nearly 20 per cent. of the total in 1943–45. Amongst females of this age the cancer rate declined slightly, but its contribution to total deaths rose from a quarter to a third owing to the much greater decline in other causes of death. Intra-cranial vascular lesions produced almost the same death-rates in 1943–45 as ten years earlier, but females registered an appreciable increase of this rate during the first half of the war. Coronary and arteriosclerotic heart disease as certified cause of death increased progressively for each sex, the rates being approximately doubled during the whole period ; but on the other hand rates

Table XXXIII.—Death-rates per 1,000 living at ages 50–55 and 55–65 from Various Causes in 1931–33, 1936–38, 1940–42 and 1943–45.

International List No.	Cause of death	Males*				Females†			
		1931–33‡	1936–38‡	1940–42	1943–45	1931–33‡	1936–38‡	1940–42	1943–45
		Ages 50–55							
13–22	Tuberculosis	1·47	1·32	1·33	1·28	0·54	0·40	0·36	0·30
45–55	Cancer	2·03	2·07	2·17	2·27	2·44	2·41	2·37	2·36
61	Diabetes	0·08	0·08	0·07	0·06	0·13	0·14	0·11	0·09
83	Intra-cranial vascular lesions	0·70	0·72	0·71	0·68	0·79	0·79	0·86	0·80
93 (*c*1), 94	Coronary and arteriosclerotic heart disease	0·54	0·88	1·03	1·17	0·16	0·26	0·28	0·31
93 (*c*2, 3), 93 (*d*)	Other myocardial degeneration	0·63	0·74	0·70	0·52	0·54	0·56	0·48	0·36
33	Influenza	0·54	0·35	0·28	0·19	0·37	0·19	0·12	0·10
107–109	Pneumonia	1·00	1·07	0·73	0·56	0·47	0·41	0·31	0·22
115–129	Diseases of digestive system	5·27	5·00	0·86	0·76	3·87	3·33	0·41	0·34
130–139	Diseases of genito-urinary system			0·56	0·46			0·41	0·35
	All other diseases			3·43	2·87			2·13	1·77
163–195, 198	Violence (except war operations)	1·00	0·91	0·92	0·69	0·33	0·35	0·29	0·22
	ALL CAUSES (except war operations)	**13·26**	**13·14**	**12·79**	**11·51**	**9·64**	**8·84**	**8·13**	**7·22**
197	Operations of war	0·01	0·01	0·57	0·21	—	—	0·37	0·13
		Ages 55–65							
13–22	Tuberculosis	1·29	1·22	1·30	1·28	0·48	0·39	0·35	0·29
45–55	Cancer	4·57	4·60	4·63	4·69	3·98	3·92	3·86	3·80
61	Diabetes	0·20	0·20	0·19	0·12	0·33	0·34	0·30	0·22
83	Intra-cranial vascular lesions	2·06	2·07	2·14	2·01	1·89	1·97	2·04	1·94
93 (*c*1), 94	Coronary and arteriosclerotic heart disease	1·34	2·18	2·57	2·88	0·56	0·85	1·00	1·02
93 (*c*2, 3), 93 (*d*), 162 (*a*), (*c*)	Other myocardial degeneration and senility	1·63	1·99	1·97	1·59	1·52	1·58	1·37	1·09
33	Influenza	0·72	0·53	0·46	0·33	0·60	0·36	0·23	0·17
107–109	Pneumonia	1·31	1·44	1·25	0·96	0·81	0·67	0·55	0·41
115–129	Diseases of digestive system	9·29	8·63	1·38	1·17	6·73	5·75	0·71	0·58
130–139	Diseases of genito-urinary system			1·26	1·07			0·70	0·57
	All other diseases			6·27	5·41			3·69	2·97
163–195, 198	Violence (except war operations)	1·30	1·21	1·25	0·88	0·45	0·46	0·42	0·32
	ALL CAUSES (except war operations)	**23·71**	**24·07**	**24·67**	**22·39**	**17·35**	**16·29**	**15·22**	**13·38**
197	Operations of war	0·00	0·01	0·62	0·21	—	—	0·40	0·15

* Excludes non-civilians in 1940–45 . † Excludes non-civilians after mid-1941.
‡ Corrected to conform with 1940 classification.

attributed to other myocardial degeneration declined during the war. There was probably a transfer from one to the other group by changing fashion in certification, the combined rate increasing slightly between 1936–38 and 1943–45 for males and falling by 18 per cent. for females.

Pneumonia mortality declined rapidly during the war in both sexes, rates in 1943–45 being little more than half those of 1936–38. Influenza rates showed a similar fall, and tuberculosis amongst females of these ages also declined progressively. Death-rates from violent causes other than operations of war were lower in 1943–45, by 24 per cent. in males and by 37 per cent. in females, than in the years preceding the war ; and rates from diabetes and the residual causes fell by 20 to 40 per cent.

Table XXXIV.—Death-rates per 1,000 living at ages 65–70, 70 and over from Various Causes in 1931–33, 1936–38, 1940–42 and 1943–45.

International List No.	Cause of death	Males*				Females†			
		1931–33‡	1936–38‡	1940–42	1943–45	1931–33‡	1936–38‡	1940–42	1943–45
		Ages 65–70							
13–22	Tuberculosis	0·92	0·87	0·94	0·96	0·44	0·35	0·32	0·28
45–55	Cancer	8·77	8·65	8·73	8·61	6·38	6·18	6·16	5·88
61	Diabetes	0·46	0·50	0·45	0·33	0·66	0·75	0·65	0·54
83	Intra-cranial vascular lesions	5·57	5·15	5·32	5·01	4·79	4·65	4·87	4·54
93 (*c*1), 94	Coronary and arteriosclerotic heart disease	3·35	4·77	5·65	5·96	1·59	2·47	2·86	3·00
93 (*c*2, 3), 93 (*d*), 162 (*a*), (*c*)	Other myocardial degeneration and senility	4·76	5·20	5·22	4·38	4·24	4·41	4·10	3·31
33	Influenza	1·11	0·73	0·59	0·48	1·06	0·64	0·45	0·38
107–109	Pneumonia	2·09	1·97	1·78	1·52	1·44	1·21	1·09	0·84
115–129	Diseases of digestive system	18·22	15·45	1·84	1·66	13·03	10·92	1·23	1·00
130–139	Diseases of genito-urinary system			3·01	2·57			1·28	1·06
	All other diseases			10·49	9·09			7·22	5·79
163–195, 198	Violence (except war operations)	1·51	1·38	1·59	1·19	0·69	0·74	0·70	0·50
	ALL CAUSES (except war operations)	**46·76**	**44·67**	**45·61**	**41·76**	**34·32**	**32·32**	**30·93**	**27·12**
197	Operations of war	—	0·00	0·57	0·20	—	—	0·44	0·17
		Ages 70 and over							
13–22	Tuberculosis	0·49	0·48	0·45	0·48	0·30	0·27	0·21	0·21
45–55	Cancer	12·53	13·07	12·73	12·48	9·92	9·90	9·29	9·04
61	Diabetes	0·71	0·85	0·79	0·58	0·83	1·00	0·91	0·78
83	Intra-cranial vascular lesions	13·80	13·11	12·82	11·74	12·75	12·15	12·29	11·84
93 (*c*1), 94	Coronary and arteriosclerotic heart disease	8·14	11·74	12·73	13·18	5·38	7·96	8·86	9·24
93 (*c*2, 3), 93 (*d*), 162 (*a*), (*c*)	Other myocardial degeneration and senility	23·90	25·28	25·73	22·34	24·95	25·12	25·43	22·36
33	Influenza	2·87	1·50	1·17	1·15	3·28	1·56	1·19	1·19
107–109	Pneumonia	3·78	3·48	3·22	2·86	3·34	2·82	2·74	2·29
115–129	Diseases of digestive system	41·76	35·69	2·63	2·26	32·02	25·42	2·19	1·87
130–139	Diseases of genito-urinary system			7·82	6·80			2·41	2·02
	All other diseases			22·44	18·50			18·87	15·40
163–195, 198	Violence (except war operations)	2·46	2·53	2·69	1·96	2·05	2·30	2·29	1·77
	ALL CAUSES (except war operations)	**110·44**	**107·73**	**105·22**	**94·33**	**94·82**	**88·50**	**86·68**	**78·01**
197	Operations of war	—	0·00	0·54	0·21	—	—	0·54	0·20

* Excludes non-civilians in 1940–45. † Excludes non-civilians from mid-1941.
‡ Corrected to conform with 1940 classification.

At **ages 55–65,** cancer accounted for 19 per cent. of the male death-rate in 1931–33, rising to 21 per cent. in 1943–45, and in females the proportion rose from 23 to over 28 per cent., despite the progressive decline in the absolute rate. Cerebral hæmorrhage rates were raised during 1940–42 but then fell back to pre-war levels. Coronary and arteriosclerotic heart disease continued to increase as certified cause of death amongst males, though not so rapidly as in the years preceding the war, the rate for 1943–45 being 32 per cent. in excess of 1936–38. The combined rate with other myocardial degeneration and senility rose from 2·97 in 1931–33 to 4·17 in 1936–38 and 4·54 in 1940–42, but fell back slightly to 4·47 in 1943–45. Amongst females of these ages the combined rates were 2·08, 2·43, 2·37, 2·11 in the successive periods.

Pneumonia rates decreased during the war by 33 and 39 per cent. for males and females respectively, improvement being not so pronounced as at ages 50–55. Other causes showed trends similar to those noted at the younger age-group.

At **ages 65–70,** cancer was responsible for 18·8 per cent. of the total male death-rate in 1931–33, but although the cancer death-rate was slightly lower in 1943–45, it then contributed 20·6 per cent. to the total mortality. Amongst females, cancer produced 18·6 per cent. of all deaths in 1931–33, rising to 21·7 per cent. in 1943–45 notwithstanding a fall of eight per cent. in the cancer death-rate. It is evident that malignant neoplasms (which exclude Hodgkin's disease and leukæmia in the present classification) are now certified as causing approximately one-fifth of all deaths of males at each age between 50 and 70, whereas for females the proportion is much higher in the sixth decade of life and falls progressively from one-third of all deaths at ages 50–55 to rather more than one-fifth at 65–70.

Intra-cranial vascular lesions registered a slight fall in death-rates towards the end of the war, after increases for each sex in 1940–42. The steady rise in the rate attributed to coronary and arteriosclerotic heart disease continued, but was offset, as at earlier ages, by a decline in mortality attributed to other myocardial degeneration and senility, the combined rate rising only slightly from 9·97 in 1936–38 to 10·34 in 1943–45 amongst males and declining from 6·88 to 6·31 amongst females. These three major groups of " degenerative " disease taken together, which account now for about 40 per cent. of all deaths at 65–70, produced death-rates of 13·7 and 10·6 per 1,000 living in males and females respectively in 1931–33, changing to 15·4 and 10·9 by 1943–45. The increase in these degenerative causes in the aggregate has been preculiar to males, and this is the chief reason why the male death-rate from all causes has not fallen as rapidly as that of females. When cancer also is added to this group, males show an increase from 22·5 to 24·0, whilst all other causes of death show a decline from 24·3 to 17·8, a remarkable contrast.

Pneumonia death-rates declined during the war by 23 and 31 per cent. for males and females compared with falls of 33 and 39 per cent. at ages 55–65 and about 50 per cent. for each sex at 50–55. The rate attributable to violent causes other than operations of war showed an increase for males in 1940–42, but the rate for each sex in the latter half of the war was considerably below the level of 1931–38.

At **ages 70 and over,** cancer rates have fallen considerably since 1936–38 for each sex and deaths attributed to this cause accounted for 13·2 and 11·6 per cent. of all deaths of males and females in 1943–45. Intra-cranial vascular

lesions declined progressively for males, the rate in 1943–45 being 15 per cent. below that of 1931–35 ; but for females the rate fell only slightly during the war. The combined death-rate attributed to this cause and to sclerotic and degenerative heart diseases and senility in the successive periods was 45·8, 50·1, 51·3, 47·3 per 1,000 for males, and 43·1, 45·2, 46·6, 43·4 for females, both sexes showing an upward trend until 1940–42, followed by a fall almost to the original levels of 1931–35.

Pneumonia rates declined during the war by 18 and 19 per cent. in males and females respectively, rather less than at ages 65–70. It is evident that the improvement in pneumonia mortality was progressively smaller as age advanced from 50. Diabetes rates, however, declined through the war to much the same extent at each age-group after 50.

In the table below, the death-rates in 1943–45 at the four age-groups are expressed as percentages of the corresponding rates of 1931–33, twelve years earlier, for the main groups of causes (excluding operations of war).

	Males				Females			
	50–	55–	65–	70 up	50–	55–	65–	70 up
Cancer	112	103	98	100	97	95	92	91
" Degenerative " group	127	129	112	103	99	102	102	101
Pneumonia	56	73	73	76	47	51	58	69
Violence	69	68	79	80	67	71	72	86
Other causes ...	76	82	73	65	60	59	60	59

The " degenerative " group of causes of death (consisting of cerebral, coronary and myocardial disease and senility) shows changes since 1931 in remarkable contrast with those for the causes more amenable to medical treatment or to preventive measures. In 1931–33 the last three groups of the above table contributed 60 per cent. of all deaths at ages 50–65 and 47 per cent. at ages over 65, but by 1943–45 the proportions had fallen to 50 and 37 per cent. respectively. The cancer rate has been falling substantially amongst females. For the degenerative group, however, there are indications that peak levels may have been reached between 1936 and 1942, as may be seen from Tables XXXIII and XXXIV.

Deaths of Centenarians.—Table XXXV presents the usual record of the deaths of reputed centenarians. There were 111 of males and 520 of females during the six years, 1940–45. The mean annual number of such deaths was, therefore, 105 compared with a yearly average of 102 during the five years preceding.

Table XXXV.—Age at Death of Centenarians, 1940 to 1945.

	Males												Females									
	100 and over	100	101	102	103	104	105	106	107	108	109	112	100 and over	100	101	102	103	104	105	106	107	108
Year 1940																						
Greater London ...	7	5	1	–	–	–	1	–	–	–	–	–	25	6	11	5	2	–	–	1	–	–
Rest of South East ...	1	–	–	1	–	–	–	–	–	–	–	–	26	10	5	3	2	4	–	1	–	1
North	2	1	–	1	–	–	–	–	–	–	–	–	11	4	5	1	–	1	–	–	–	–
Midlands	2	1	–	1	–	–	–	–	–	–	–	–	12	4	6	2	–	–	–	–	–	–
East	–	–	–	–	–	–	–	–	–	–	–	–	5	4	–	1	–	–	–	–	–	–
South West	6	4	1	–	1	–	–	–	–	–	–	–	19	11	4	2	1	1	–	–	–	–
Wales	2	2	–	–	–	–	–	–	–	–	–	–	4	2	1	–	1	–	–	–	–	–
England and Wales ...	**20**	**13**	**2**	**3**	**1**	–	**1**	–	–	–	–	–	**102**	**41**	**32**	**14**	**6**	**6**	–	**2**	–	**1**
Year 1941																						
Greater London ...	8	3	3	–	–	1	–	–	–	–	–	1	12	8	1	–	–	1	1	–	–	1
Rest of South East ...	1	1	–	–	–	–	–	–	–	–	–	–	24	10	8	3	3	–	–	–	–	–
North	1	1	–	–	–	–	–	–	–	–	–	–	13	7	4	2	–	–	–	–	–	–
Midlands	4	2	–	2	–	–	–	–	–	–	–	–	14	9	1	1	2	–	1	–	–	–
East	3	3	–	–	–	–	–	–	–	–	–	–	12	3	4	2	2	1	–	–	–	–
South West	1	–	1	–	–	–	–	–	–	–	–	–	12	6	4	1	1	–	–	–	–	–
Wales	–	–	–	–	–	–	–	–	–	–	–	–	4	2	1	–	1	–	–	–	–	–
England and Wales ...	**18**	**10**	**4**	**2**	–	**1**	–	–	–	–	–	**1**	**91**	**45**	**23**	**9**	**9**	**2**	**2**	–	–	**1**
Year 1942																						
Greater London ...	4	3	1	–	–	–	–	–	–	–	–	–	15	6	4	4	1	–	–	–	–	–
Rest of South East ...	1	–	1	–	–	–	–	–	–	–	–	–	19	7	10	1	1	–	–	–	–	–
North	2	–	1	–	–	–	–	1	–	–	–	–	8	7	–	1	–	–	–	–	–	–
Midlands	2	1	–	–	–	–	–	–	1	–	–	–	17	7	6	3	–	–	–	–	–	1
East	–	–	–	–	–	–	–	–	–	–	–	–	7	3	1	2	1	–	–	–	–	–
South West	2	–	1	1	–	–	–	–	–	–	–	–	10	5	3	2	–	–	–	–	–	–
Wales	1	–	–	–	1	–	–	–	–	–	–	–	3	2	1	–	–	–	–	–	–	–
England and Wales ...	**12**	**4**	**4**	**1**	**1**	–	–	**1**	**1**	–	–	–	**79**	**37**	**25**	**13**	**3**	–	–	–	–	**1**
Year 1943																						
Greater London ...	–	–	–	–	–	–	–	–	–	–	–	–	23	11	5	3	2	2	–	–	–	–
Rest of South East ...	9	7	–	–	1	–	1	–	–	–	–	–	18	7	3	5	–	1	2	–	–	–
North	1	–	–	–	–	–	–	–	–	1	–	–	12	3	4	–	3	2	–	–	–	–
Midlands	2	2	–	–	–	–	–	–	–	–	–	–	12	5	4	2	–	–	–	1	–	–
East	3	1	–	2	–	–	–	–	–	–	–	–	10	3	1	3	1	1	1	–	–	–
South West	5	1	1	1	–	1	–	–	–	1	–	–	15	7	4	3	–	1	–	–	–	–
Wales	1	1	–	–	–	–	–	–	–	–	–	–	2	1	–	–	–	1	–	–	–	–
England and Wales ...	**21**	**12**	**1**	**3**	**1**	**1**	**1**	–	–	**2**	–	–	**92**	**37**	**21**	**16**	**6**	**8**	**3**	**1**	–	–
Year 1944																						
Greater London ...	2	–	1	–	–	–	–	–	1	–	–	–	16	5	3	4	3	1	–	–	–	–
Rest of South East ...	8	1	3	1	1	1	–	–	–	–	1	–	22	13	4	3	1	–	1	–	–	–
North	4	–	2	–	1	1	–	–	–	–	–	–	11	6	3	1	1	–	–	–	–	–
Midlands	3	–	2	1	–	–	–	–	–	–	–	–	16	8	3	3	1	1	–	–	–	–
East	–	–	–	–	–	–	–	–	–	–	–	–	7	2	1	2	2	–	–	–	–	–
South West	2	–	1	–	–	1	–	–	–	–	–	–	12	5	3	1	3	–	–	–	–	–
Wales	2	1	1	–	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	–	–	–
England and Wales ...	**21**	**2**	**10**	**2**	**2**	**3**	–	–	**1**	–	**1**	–	**85**	**40**	**17**	**14**	**11**	**2**	**1**	–	–	–
Year 1945																						
Greater London ...	3	–	2	–	–	–	1	–	–	–	–	–	15	8	1	1	4	1	–	–	–	–
Rest of South East ...	5	2	1	1	–	–	1	–	–	–	–	–	12	4	3	4	–	–	–	1	–	–
North	5	–	3	1	–	–	1	–	–	–	–	–	8	5	2	1	–	–	–	–	–	–
Midlands	1	1	–	–	–	–	–	–	–	–	–	–	19	11	5	3	–	–	–	–	–	–
East	1	–	–	1	–	–	–	–	–	–	–	–	6	2	–	2	1	–	1	–	–	–
South West	2	1	1	–	–	–	–	–	–	–	–	–	8	6	1	–	–	1	–	–	–	–
Wales	2	–	–	2	–	–	–	–	–	–	–	–	3	2	–	–	–	–	1	–	–	–
England and Wales ...	**19**	**4**	**7**	**5**	–	–	**3**	–	–		–	–	**71**	**38**	**12**	**11**	**5**	**2**	**2**	**1**	–	–

CAUSES OF DEATH

The causes of death of males and females at 19 groups of ages are stated in Table 21 for England and Wales. For males this table excludes deaths of non-civilians in each year 1940 to 1945 ; for females this is true from mid-1941 onwards. Table 21A gives the deaths of non-civilians which were registered in England and Wales and excluded from Table 21, with similar detail of cause and age. In Table 22 further detail of age of children aged 0–5 is given for each cause of significance. Table 23 classifies deaths at all ages from the principal causes for each sex according to the month when they occurred, this being the only table which refers to the date of occurrence instead of the date of registration ; the annual totals in this table are not, therefore, the same as in Tables 6 and 21.

The classification by cause in Table 21 includes the full International List of Causes of Death as revised in 1938 (Fifth Revision). Certain of the numbered items in it are subdivided, and where this occurs the letters (a), (b), etc., indicate subdivisions in international use, and numbers (1), (2), etc., subdivisions made without international agreement. This list is used also in Table 6, and selected causes from it in Tables 7–12, 15, 22, 23 and 25. The changes in definition and content of the rubrics of the classification resulting from the Fifth Revision are summarized in Appendix B2 and B3 of 1940 Review, where the new numbers are first expressed in terms of the groups used in 1931–39, and the old numbers are then expressed in terms of the new. In Table 6 each cause in the detailed list is also accompanied by the group number, in italics, in which the cause is included in the Intermediate List of Causes of Death. In Table 24 the causes of death are arranged in the form of the short list of causes adopted by the Registrar General in consultation with the Ministry of Health for use during 1940–49 ; the relation of this list to the detailed International List is shown at the head of the table. The Registrar General's " Manual of the International List of Causes of Death (1938 Revision) "*, which defines the contents of every heading in the detailed, intermediate and short lists, should be consulted when it is desired to ascertain the precise meaning of any heading in these lists and of the changes set out in Appendix B of 1940.

Apart from the Fifth Revision of the International List, an important change was made in 1940 in the method of classification. When more than one cause is stated on a death certificate, the primary classification of the death prior to 1940 was made in conformity with rules of selection whose general principles were laid down in the Registrar General's " Manual of the International List of Causes of Death (1929 Revision) "*. The rules, which were in force with little modification from 1901 to 1939, often resulted in a death being classified to a condition which the certifier regarded as secondary to a more remote one leading up to it or as having no ætiological connection with the principal disease although it contributed something towards the fatal outcome. For example, a diabetic under good insulin control who contracted lobar pneumonia and died of it was classified by this system as having died from diabetes, since the rules gave higher precedence to the latter ; and since all diabetics must eventually die of one cause or another diabetes death-rates in the decade preceding 1940 were being greatly overstated because of its frequent mention as a contributory cause.† The classification of deaths was too greatly influenced by the mention,

---

* Copies may be obtained from H.M. Stationery Office. Price 3s. net.

† *See* Review for 1938–39. Text, page 99.

or omission to mention, of a disease which might have a high precedence by rule but was unimportant in the particular case under consideration, such mention being often merely accidental or due to a local fashion in certification.

In order to prepare the way for a method of joint cause selection more in conformity with the facts of each case, or at any rate with the attendant physician's view of the facts, a new form of death certificate was introduced in 1927. This was designed to enable the certifier, if more than one condition had to be mentioned, to distinguish clearly between (I) the train of morbid events, arranged in order from commencement to terminal condition which was responsible for the fatal issue, and (II) other contributory causes not directly connected with I. For example, the diabetic under insulin control who died of lobar pneumonia would be certified as I Lobar pneumonia, II Diabetes, with resulting classification to pneumonia, whereas a person acutely ill with diabetes who also developed pneumonia as an incident would be correctly certified as I Diabetes, II Pneumonia and classified to diabetes as primary cause of death. Sufficient understanding and experience of this form of certificate had first to be gained before reliance upon it for purposes of classification could be substituted for the arbitrary code of selective rules. As described in the Review for 1935 (Table XXXV) a test was carried out on a large sample of death certificates in that year, and this was followed in 1936–38 by dual classification of all deaths for which more than one cause was certified, according to both methods of selection. It was decided to change to the new method of selection in accordance with the certifier's opinion from 1940 onwards, and in the Review for 1938–39 (Text, page 48) an explanation was given of the method which would be used in order to effect the transition with as little disturbance of continuity in statistics as possible.

The new instructions for classification are set out in the Registrar General's Manual of the International List of Causes of Death (1938 Revision), pages xxxvi–xli. The order of statement of conditions on the certificate provides the basis for selection except in certain combinations of causes specified in the International List (*e.g.*, arteriosclerosis with resultant cerebral hæmorrhage), combinations of an ill-defined with a more definite cause (*e.g.*, senility with bronchitis as contributory cause), and combinations of causes certified in an impossible order of sequence (*e.g.*, measles due to pneumonia). For the year 1939 alternative tabulations of all deaths by cause, sex and age were included in the Review of that year, Table 21 giving the result according to the Fourth Revision and rules as shown in the 1929 Manual, and Appendix B the result according to the Fifth Revision and new instructions set out in the 1938 Manual. This double classification for 1939 provided a possible statistical bridge between years 1931–39 and 1940–49, but the use of a single year's deaths for this purpose is open to objections, and for most causes more reliable transition ratios were obtained by combining the dual tabulations of the four years 1936–39. For this purpose it was necessary first to adjust the tables of deaths in years 1936 to 1938 based upon the new method of selection for the additional effect of changes in the International List at the Fifth Revision as set out in Appendix B2 of the 1940 Review. By this means, alternative tabulations similar to those published for 1939 were arrived at also for years 1936, 1937 and 1938 ; and from these could be extracted numbers of deaths by sex and age in each of those years which were directly comparable with those in 1940 and subsequent years.

As an example of the method of procedure, tuberculosis of the respiratory system had the following numbers of deaths of males of all ages in years 1935–1940 (civilians after 3rd September, 1939) :—

	1935	1936	1937	1938	1939	1936–39	1940
Classified according to 1929 Manual (figures published in Tables 21)	14,081	13,770	13,832	12,862	13,124	53,588	—
Modified by using certifier's order of preference instead of rules	—	13,257	13,362	12,432	—	—	—
Further adjusted for changes in International List at Fifth Revision	—	13,270	13,375	12,445	—	—	—
Final numbers shown in Table 6 of 1940 Review	13,602*	13,270	13,375	12,445	12,683†	51,773	13,730
Conversion ratio for correcting male deaths and rates of years prior to 1936	—	—	—	—	—	0·966‡	—

* Obtained by multiplying 14,081 by the conversion ratio 0·966.

† Obtained by alternative coding by the new classification, *see* Appendix B.1 of the 1939 Review.

‡ Ratio of 51,773 to 53,588.

This process was carried out in full detail of sex and age, and unless any important variation in the resulting conversion ratio with age was apparent, the all-ages value of the ratio has been used to correct deaths and rates of the appropriate sex in years prior to 1935 for any age-group and locality. For some causes the ratio at certain age-groups such as 0–1 year was significantly different, and in such cases the age-specific ratio has been used when correcting pre-1936 deaths at those ages (*e.g.*, Tables 11, 12).

Appendix B1 of the 1940 Review gives the conversion ratios for the principal causes of death. For those designated by A in column 4 the C.R. for each sex has been derived from deaths in 1936–39 by the method above, and these ratios may be used as multipliers in order to make deaths or rates of years prior to 1936 comparable as nearly as possible with those of 1940–49. For causes designated by B the C.R. is derived from 1939 only owing to lack of the necessary data for 1936–38, and such ratios may be applied to all years prior to 1939. For other causes the ratios have been derived by special methods and the meaning of the letters C, D, E, F, is explained in the notes to the table (page 321).

In Tables 6–12 all deaths and rates for years 1931–39 have been modified or adjusted and may be regarded as comparable with those of years 1940 onwards. It should be noted that these final figures do not always agree exactly with the product of the original deaths or rates with the conversion ratio owing to final adjustments having been made. After multiplying the deaths in a particular year for a series of sub-groups by their corresponding C.R..s, the resulting group total sometimes differed slightly from that obtained by multiplying the original group total by its C.R. In all cases the corrected figures for sub-groups were further adjusted to produce the proper group total ; and in order to make the grand total for all causes identical with the original grand total, adjustments were made to a few large groups with high conversion ratios such as bronchitis.

Special secondary tabulations according to the associated cause are made for deaths connected with anæsthetics, alcoholism and childbearing, and are included in this Review.

In Table 24 deaths are shown for the several geographical regions of the country, for urban and rural portions of administrative counties, and for county and metropolitan boroughs, arranged by sex, age and the short list of causes as set out at the head of the table. The same information, though not by age, is also available for each individual administrative area.

Table 7 gives the crude death-rates per million males, females and persons living, derived from the deaths in Table 6; the rates there shown for years 1931–39 are therefore corrected to conform with those of 1940–45. No rates are shown for non-violent causes which give a rate of less than five per million population.

Table 8 of the 1940 and 1941 Reviews gives the corresponding standardized death-rates of males and females for the principal causes; but in the Reviews for 1942 to 1945 comparative mortality indices take the place of the standardized death-rates. The meaning and method of calculation of the C.M.I. is explained on pages 6–11. Table 9 also gives comparative mortality indices of persons, and death-rates at ages under 15, for certain causes in each year as far back as the information is available.

Tables 11 and 12 state the mortality of infants under one year of age from the causes of chief importance at that age during years since 1931, but without distinction of sex. The deaths and rates for years before 1940 are corrected to conform with those of 1940–45.*

Multiple Causes of Death entered on Certificates.

The Decennial Supplement for 1931, Part IV, Multiple or Secondary Causes of Death, showed that during 1921–30 there was mention of one or more associated causes on 33·2 per cent. of certificates of death from non-violent causes. In that analysis no account was taken of an associated disease classified to the same international number as the primary cause, nor of ill-defined associated causes, such as heart failure and congenital debility, included in Nos. 164.2, 204 or 205 of the International List then in use.

In March, 1935, out of a sample of 9,892 medical certificates rendered on the usual form, and therefore excluding those given by coroners, 43 per cent. had an associated cause entered. In London and the South East the proportion was 45 per cent. (Review for 1935, Table XXXV).

Ten years later a sample of 8,702 consecutive certificates of deaths from non-violent causes registered during February, 1945, in London and the South East were examined, of which 915 were coroners' certificates. The 7,787 given by medical practitioners have been grouped below so as to show the arrangement of the causes entered upon them and whether definite or indefinite.

	Per cent. of sample.	
Single cause of death entered	33·4	
Indefinite secondary with—		
No contributory cause	10·8	45·3
Indefinite contributory cause	0·4	
Indefinite contributory with—		
No secondary cause	0·7	
Definite secondary—		
1 secondary, no contributory	29·7	
2 or more secondaries, no contributory ..	8·8	
With a contributory cause	8·5	54·7
Definite contributory with—		
No secondary cause	5·6	
Indefinite secondary cause	2·1	

By "secondary" is meant a condition entered in space I of the certificate as due to the originating (primary) cause, which implies that it resulted directly from the condition to which the death is classified. "Contributory" means

* Age-specific conversion ratios have been used where such figures are given for ages 0–1 in the notes below Appendix B1 of the 1940 Review.

a condition entered in space II (other morbid conditions contributing to death but not related to immediate cause). "Indefinite" means any condition included in Nos. 86, 158, 162a, 162c, 199 or 200 of the International List, Fifth Revision.* Thus "heart failure" (in No. 200) is very often mentioned as the "immediate condition" despite the instruction not to enter mere modes of dying when a well-defined primary cause is given. This particular entry accounts for a large proportion of the 13 per cent. in the second and last groups above.

The proportion of certificates on which a definite associated cause was entered was 54·7 per cent. in 1945 compared with about 45 per cent. in the same region in 1935, so the tendency to enter multiple causes on certificates has increased considerably during the ten years. One or more definite secondary conditions without any contributory condition were entered on 38½ per cent., one or more definite contributory conditions without a definite secondary on eight per cent., and a combination of secondary and contributory conditions on 8½ per cent. On about 17 per cent. of certificates three or more definite conditions were entered.

Defects in Certification of Cause of Death by Medical Practitioners.

Understanding of the proper use of the form of certificate first introduced in 1927 has steadily improved, but nevertheless 13,944 medical enquiries, other than those which followed the initialling of space B on the back of the certificate, had to be sent in 1945 with a view to clarifying the cause of death for purposes of statistical classification. The tendency for these enquiries to increase rather than decrease in numbers is accounted for by the demands from the medical profession itself for greater detail in classification of particular diseases or groups of diseases. It is not due to difficulties arising out of the use of the order of statement of diseases on the certificate as basis for classification, which are in fact less frequent than under the method of selection according to rules of precedence. In a few instances classification has to be made to the cause in space II either because of a rule laid down in the International List itself about a particular combination of causes or because the primary cause was crowded out of space I and the certifier wrote it in space II in error.

Improvement in the quality of certification may be looked for and striven for, along several avenues. The most important of these will be improvement in accuracy of diagnosis, which can be achieved by (1) raising the quality of the diagnostic services available during life and (2) increasing the resort to autopsy in doubtful cases. This applies particularly to deaths in rural areas thought to be due to an internal malignant neoplasm but with that diagnosis unconfirmed, and to deaths of young infants in all areas whose cause has to be guessed at by the certifier far too often, as sample studies have shown. Mere improvements in the rubrics of the International List cannot produce reliable statistics unless diagnosis is reasonably good.

Next in importance amongst the sources of error to be eradicated is omission from the certificate of the real cause of death because its appearance in the public register may be unpleasant or inconvenient to the relatives. Solutions of this difficulty have been sought for in other countries by various methods of confidential certification. The problem is a serious one and will have to be dealt with more boldly if real statistics of such diseases as syphilis are ever to be secured.

---

* *See* Manual of the International List of Causes of Death, 1938, p. xxxvi.

Faulty statement on the certificate of the certifier's opinion as to the relative parts which several causes played in producing the fatal issue is another source of error. This can be minimised by careful instruction of medical students in the correct use of the certificate and in such instruction the following points need to be stressed :—

(1) Avoid using an indefinite or inadequate term, as sole cause of death without further description.

(*a*) Symptoms (*e.g.*, albuminuria, ascites, convulsions, croup, debility, diarrhœa, jaundice, paralysis, toxæmia).

(*b*) Morbid conditions which can arise from more than one type of infection or poison (*e.g.*, dysentery, encephalitis, meningitis, neuritis, osteomyelitis, stricture).

(*c*) Terms covering several morbid conditions separately classified in the International List (*e.g.*, goitre, nephritis, pneumonia, rheumatism).

(*d*) Diseases which may be localised to particular organs with separate distinction in the International List (*e.g.*, aneurysm, hydatid, neoplasms, peptic ulcer, tuberculosis, valvular disease of heart).

(*f*) Morbid conditions whose classification depends on the circumstances in which death occurred (*e.g.*, abortion, anæsthesia, endometritis, hepatitis, maternal causes, paralytic ileus, poisoning).

(2) Mode of dying and symptoms need not be added when a well defined disease is stated as cause of death.

The insertion of such terms as heart failure, syncope, collapse, œdema, rarely makes any difference to classification, and generally serves no useful purpose. Indefinite secondary or contributory conditions of this kind appear on more than 50,000 certificates annually and the unprofitable labour expended by the doctors in writing them, by the registrars in transcribing and the coding staff in reading them is very considerable. The question has been asked " Do you wish me to write a pathological essay on the certificate ? " and to this the answer is an emphatic negative. It may impress the relatives with the ability of the medical attendant, but unless the information is necessary it merely tends to confuse and should be avoided. This does not apply to well defined complications as distinct from mere symptoms, however, and there are some morbid conditions sometimes regarded as " symptoms " which need to be mentioned for purposes of classification, e.g. :—

High blood pressure.

Complications of " influenza " and diabetes.

Intestinal obstruction.

Hæmorrhage of abnormal degree in parturition.

Pyelitis.

(3) Avoid writing in Space I any disease not in the pathological sequence leading to immediate cause of death.

If it is considered that two independent diseases were equally responsible for the fatal issue, they should be entered on the same line of Space I, but with this rare exception the causes in that space should form a single pathological sequence. Any morbid condition not in that sequence should be entered in Space II even though it may have been a by-product at some point in the sequence. Normal pregnancy present at death may be so entered in Space II if thought to have contributed to the fatal issue by lowering resistance or in any other way, but to forestall a further enquiry such pregnancy should be described as " normal, undelivered ".

(4) Arrange the causes in Space I in reversed order of their occurrence, ending with the immediate cause on line (a).

This is now of the utmost importance because, although it is possible to detect accidental inversions of the correct order in many instances (*e.g.*, measles due to pneumonia), there are combinations of morbid conditions which may follow one another in either sequence and in such cases there is nothing to suggest that the written order did not express the certifier's real opinion.

(5) Include in the cause of death the following special information, which is necessary for classification.

Prematurity	State the weight at birth if ascertainable; if not, the estimated duration of gestation.
Injury at birth ..	Mention this if significant.
Congenital causes ..	If believed to have been congenital, state this.
Deaths due to or associated with childbearing.	State whether death occurred after parturition or abortion or whilst undelivered.
Deaths following vaccination.	Mention vaccination if thought to have been a causative or contributory factor, with interval between vaccination and death.
Deaths following operations.	Mention tonsillectomy, cæsarean section or use of instruments in parturition or abortion.

Defects in Certification of Cause of Death by Coroners

Violent causes of death form an ever increasing proportion of the total mortality during childhood, youth and middle age, and in recent years more attention has rightly been directed towards prevention of accidental fatalities. Measures to that end cannot be planned intelligently without accurate statistics of the circumstances which lead to accidents since they must consist not only of attempts to remove the causes as far as practicable, but also of education and propaganda which demand statistics. In these efforts the United States of America have led the way, and the next revision of the International List of Causes of Death will attempt to make a clear separation of accidents according to (1) where they occur, (2) circumstances leading to the accident, and (3) kind of injury sustained. In addition, information is needed as to whether the accident occurred during work or not.

During the period under review the information rendered to the Registrar General by coroners' certificates failed very often to answer these questions satisfactorily. It is not possible to state with accuracy how many deaths resulted from accidents within the home, nor how many occurred at work ; and information concerning the type of injury was often insufficient for purposes of useful classification. In order to ascertain to what extent these certificates failed to provide the requisite information, a sample of 1,000 consecutive certificates of death from a violent cause registered in London and the South East during February, 1945, was examined and a summary of the result is shown below.

Analysing the deaths first on the basis of the external cause and circumstances, 175 were suicides, 13 homicides, 1 legal execution, 1 war injury, 4 complications of medical and surgical procedures, and the remaining 806 were accidents or presumed to be accidents. Of the 806 accidents 233 were classified as transport accidents, and the information concerning these was lacking as to place of occurrence in 11, as to whether in the course of work in 10, as to cause of injury in 5, as to the kind of motor vehicle involved in 3, and as to whether the victim was a pedestrian or occupant of a vehicle in 12. These 41 defects occurred on 23 certificates, so 90 per cent. were satisfactory. More complete information tends to be given about accidents connected with transport than about other forms of accident.

Of the remaining 573 certificates of fatal accidents, 270 or 47 per cent. failed to state whether the accident occurred in a place of residence, public building, or out of doors, and consequently the compilation of statistics of home accidents has to be based on estimates, assumptions and conjectures. This is particularly important for falls, of which there were 253 definitely specified as such, and 22 fractures in aged people assumed to be due to falls. The total comprised 18 which clearly happened during work, 243 which presumably did not, and 14 doubtful. Information as to the place where the fall occurred was lacking for one-half of the falls classified as non-occupational ; and for 45 per cent. it was not possible to say whether the fall was down stairs or steps, from one level to another, or merely on the ground or floor. There were 29 out of the 573 accidental deaths without information as to the way in which the injury was received, apart from the 22 fractures mentioned above.

In order to provide all the information needed with regard to transport, industrial and home accidents, it is essential first of all to be able to classify *all* of them according to whether they occurred on home premises, public highways, industrial places, public buildings, playgrounds, open spaces or elsewhere. On 28 per cent. of the certificates as a whole this necessary information was lacking. The next essential is to know whether an accident occurred while at work or not, and this was unstated and could not be inferred from the occupation or other information in five per cent. of all accidents. The cause of injury was not stated at all for 5½ per cent. of violent deaths.

The International List has not hitherto provided for a classification of violent deaths according to the type of injury or part of the body affected, but from the year 1949 onwards, information on these points will be needed. Analysis of the 1,000 certificates for violent deaths showed that the kind of injury was insufficiently recorded for this purpose in 12½ per cent., including seven per cent. described merely as "multiple injuries" or "injuries," two per cent. in which it could only be inferred from the cause that there must have been an open wound and one per cent. with "head injury" of an unspecified kind. The part of body injured was unspecified on 18½ per cent. of the certificates. In the case of burns the site of injury was unstated in 77 per cent. The most frequent fault is the use of the term "multiple injuries" without any indication as to either the nature of those injuries or the parts injured.

Statistics of Notifiable Infectious Diseases.

Tables 26, 28 and 29 give the record of annual notifications of infectious diseases other than tuberculosis, and Table 27 shows the seasonal incidence. These statistics are derived from the weekly cards sent by each Medical Officer of Health to the Registrar General, on which are stated the numbers of notifications received during the week of each disease notifiable throughout the country. Prior to 1944, any subsequent corrections of these numbers, arising from amendments by the notifier or from errors, were reported on cards of later weeks and, together with returns received too late for inclusion in the Weekly Return,* were incorporated in the quarterly and annual statistics. No provision was made, however, for the correction of these statistics for amendments of diagnosis occurring after admission to infectious diseases hospitals. The increasing practice of notifying suspected cases in order to facilitate immediate admission to hospital for diagnosis and treatment made it essential that those amendments should be so incorporated if the statistics were to be useful as measures of the trend of incidence. Furthermore, the need for national statistics of infectious disease incidence according to sex and age had long been felt, so in 1944 a new quarterly return was introduced on which each Medical Officer of Health gave (*a*) the number of original notifications received during the quarter, and (*b*) the numbers of persons of each sex and in specified age-groups who, after amendment of diagnosis, either by the notifier or by the infectious diseases hospital, remained as notified cases.

Table 28 shows, for 1944 and 1945 only, the numbers of finally corrected notifications, and a supplementary table (28A) for each of those years divides the totals, both for civilians and non-civilians, according to sex and age. Table 29 for the same years gives in section (*a*) the numbers of original notifications in each region and class of area, and in section (*b*) the final numbers after correction in each region and class of area and in each separate administrative area. The notification rates in Table 26 are also based upon the corrected notifications for years 1944 and 1945.

When making comparisons between these two years and preceding years, it is necessary to make allowance for the absence of this diagnosis correction in years prior to 1944. A test in 1943 showed that the partial correction of which the Registrar General had been informed in those years had an appreciable effect on the original notification totals for the following diseases, so in order to estimate the "original" totals for years before 1944 the published figures should be multiplied by the factors indicated :—

Cerebro-spinal fever ..	1·045.	Diphtheria ..	1·044.
Dysentery	0·958.	Measles	0·988.
Poliomyelitis and polioencephalitis ...	1·035.		

For other diseases the published figures may be taken as original notifications without appreciable error.

If the trend of notifications is to be followed from 1939 to 1945, for example, this can only be done by means of the original notifications, since the procedure for full correction was not commenced until 1944. The original notifications for years 1939 to 1943 are first estimated by applying the factor above to the partially corrected figures for those years in Table 28 or 29, and the original notifications in 1944 and 1945 are found from Table 29 (*a*) of the latter years. Taking diphtheria in the whole of England and Wales, as an example :—

* The Registrar General's Weekly Return, H.M.S.O. price sixpence net.

	1939	1940	1941	1942	1943	1944	1945
Partially corrected notifications	47,343	46,280	50,804	41,404	34,662	—	—
Original notifications (estimated for 1939–43)	49,426	48,316	53,039	43,226	36,187	29,949	25,246
Final numbers after correction*	—	—	—	—	—	23,199	18,596

* Notifications from Port Health Districts are not subsequently corrected, but the numbers are very small, and to complete the national totals the original numbers are added in (Table 28).

The ratio of the final number after correction to the original number of notifications varies greatly according to the disease, and may change from year to year according to the degree to which provisional notification is being practised as a safeguard. From 1944 onwards the trend of prevalence of a disease can be assessed better from the corrected numbers than from original notifications. It must not be forgotten that many cases escape notification, particularly for diseases such as erysipelas and pneumonia where the advantages accruing to the patient and to the community by notification are less immediate and obvious. It is well known, for example, that notification of pneumonia is very incomplete at advanced ages. Nevertheless, unless circumstances arise which encourage or discourage notification of a particular disease, it is unlikely that over short periods of time the *trend* of notification rates will be appreciably different from the trend of real incidence for most notifiable diseases, and the fact of incompleteness does not therefore invalidate the usefulness of notification statistics in the study of epidemiology.

Correction of diagnosis after admission to hospitals for infectious diseases may not modify the original numbers to the same extent in different regions and classes of area, and the table below compares the ratios of corrected to original notifications during the two years 1944–45 for seven diseases appreciably affected by such correction.

Region or aggregate	Typhoid fever	Para-typhoid fever	Cerebro-spinal fever	Scarlet fever	Diph-theria	Dysen-tery	Acute poliomyel-itis and polio-encephal-itis
Greater London	·66	·76	·79	·95	·64	·94	·85
Rest of South East	·92	·96	·93	·99	·87	1·00	·96
North	·74	·81	·74	·98	·76	·96	·88
Midland	·72	·69	·59	·98	·73	·95	·95
East	·89	·87	·88	·99	·80	·99	1·04
South West	·82	1·00	·84	·99	·81	·99	·98
Wales	·83	·96	·78	·99	·76	·99	·94
County boroughs*	·70	·77	·63	·97	·70	·95	·87
Other urban districts*... ...	·84	·88	·83	·99	·83	1·00	·98
Rural districts*...	·83	·89	·84	·99	·87	·99	·97
England and Wales	·77	·84	·74	·98	·75	·97	·93

* Excluding Greater London.

Greater London shows the highest degree of correction of any large region for five diseases ; the Midland region gives the highest degree for two and ranks second for four ; and the North ranks second for three diseases and third for four. This is connected with the greater degree of correction in county boroughs than other areas, since the three regions mentioned are the most urbanised. Probably there is a greater tendency in the large towns to notify doubtful cases in order to safeguard the patient and community. The South East outside Greater London shows low rates of correction for all the diseases, and the reason for this is not obvious.

VITAL STATISTICS OF CERTAIN DISEASES AND OTHER CAUSES OF DEATH

1, 2. **Typhoid and Paratyphoid Fevers.**—The numbers of deaths registered in England and Wales, and of notifications, from these causes, are shown below for each year 1938 to 1945, distinguishing civilians and non-civilians.

Year	Typhoid fever						Paratyphoid fever					
	Deaths				Notifications*		Deaths				Notifications*	
	Civilians		Non-civilians		Civilians	Non-civilians	Civilians		Non-civilians		Civilians	Non-civilians
	M.	F.	M.	F.			M.	F.	M.	F.		
1938 ...	85	59	—	—	933	1	5	10	—	—	386	2
1939 ...	46	44	—	—	728	6	9	13	—	—	740	5
1940 ...	47	31	5	—	867	19	22	27	3	—	1,890	57
1941 ...	40	42	—	—	1,035	23	20	44	2	—	3,627	80
1942 ...	36	26	5	2	438	30	12	7	—	1	356	34
1943 ...	22	30	5	—	367	18	6	9	—	—	313	15
1944 ...	23	19	2	—	267	17	3	6	1	—	225	33
1945 ...	12	17	3	—	271	30	3	12	—	—	214	20

* Including notifications from Port Health Districts. The numbers for 1944 and 1945 are the totals after diagnosis correction ; for comparability with those for years preceding, *see* text and page 85.

Deaths from typhoid fever, which averaged 148 annually during 1935–39, numbered 83, 82, 69, 57, 44, 32 in the six years 1940 to 1945. For paratyphoid the 1935–39 average was 31, and the numbers during the war years were 52, 66, 20, 15, 10, 15. The C.M.I. for the combined diseases declined steadily from 97·7 in 1871–75 to 9·3 in 1911–20, 1·2 in 1931–40 and 0·53 in 1941–45 (Table 9), signifying that when allowance is made for changes in age constitution of the population, the risk of dying from these causes in 1941–45 was less than one-hundred and eightieth part of that 70 years ago. During the war years of 1915–18 the C.M.I. was about eight, or 14 times as great as the average index in 1940–45.

Notifications of typhoid and paratyphoid fevers are not always confirmed as to diagnosis after admission to hospital, and the ascertainment of amendments of diagnoses in 1944–45 resulted in considerable deductions from the numbers of original notifications for these diseases. Tables 29 for 1944 and 1945 show in section (*a*) that the original notifications of typhoid were 356 and 392, whereas the corrected totals (Table 28, and above) were 284 and 301, amounting to deductions of 20 and 23 per cent. For paratyphoid the original notifications numbered 303 and 280, which were reduced to 258 and 233, or by 15 and 16 per cent.

Table XXXVI shows the notification rates and deaths per 1,000 notifications in each class of area, and notification rates in each large region. The rates in 1940–43 may be regarded as based on original notifications, since few corrections of typhoid and paratyphoid were reported in those years. It is known that notification is incomplete, particularly for paratyphoid fever, but how this varies from one region to another cannot be ascertained. The best measure of the trends of prevalence obtainable will be given by applying to the rates for 1940–43 in the table the correction factors for 1944–45 given on page 86 ; and the ratios of deaths to notifications may be similarly corrected by dividing by those factors.

Table XXXVI.—Typhoid and Paratyphoid Fevers : Prevalence and Fatality in Regions. 1940 to 1945 (Civilians).

	1940	1941	1942	1943	1944†	1945†
	Notified cases per million living—Typhoid fever					
England and Wales*	**22**	**27**	**11**	**10**	**7**	**7**
Greater London	23	33	14	15	6	5
Rest of South East	16	25	8	8	6	10
North	24	23	10	8	7	7
Midland	24	25	9	7	6	6
East	15	19	8	7	8	6
South West	20	30	32	15	14	5
Wales	18	39	9	12	6	8
County boroughs‡	22	20	11	7	5	7
Other urban districts‡ ...	22	28	8	8	6	6
Rural districts‡	19	29	14	10	11	11
	Notified cases per million living—Paratyphoid fever					
England and Wales*	**47**	**94**	**9**	**8**	**6**	**6**
Greater London	46	55	9	6	6	3
Rest of South East	27	45	9	14	5	7
North	57	133	8	7	4	6
Midland	63	138	9	7	4	4
East	30	36	11	7	7	7
South West	54	66	15	12	19	6
Wales	14	43	9	8	9	10
County boroughs‡	44	157	8	8	4	6
Other urban districts‡ ...	61	73	10	10	8	6
Rural districts‡	30	66	10	7	6	6
	Deaths per 1,000 cases notified—Typhoid fever					
England and Wales*	**90**	**79**	**142**	**142**	**157**	**107**
Greater London	78	91	90	172	143	61
County boroughs‡	115	82	203	167	213	171
Other urban districts‡ ...	65	65	150	105	147	129
Rural districts‡	113	88	110	132	148	61
	Deaths per 1,000 cases notified—Paratyphoid fever					
England and Wales*	**26**	**18**	**53**	**48**	**40**	**70**
Greater London	12	20	17	73	26	91
County boroughs‡	22	8	78	63	49	44
Other urban districts‡ ...	29	21	16	33	20	51
Rural districts‡	44	44	112	37	83	133

* Including Port Health Districts. † Fully corrected by diagnosis revision.
‡ Excluding Greater London.

The corrected notification rates per million living for typhoid fever in the six years then become for county boroughs 15, 14, 8, 5, 5, 7 ; for Greater London 15, 22, 9, 10, 6, 5 ; for other urban districts 18, 24, 7, 7, 6, 6 ; and for rural districts 16, 24, 12, 8, 11, 11. The fatality ratios per 1,000 cases of typhoid after such correction become, for county boroughs 164, 117, 290, 239, 213, 171 ; for Greater London 118, 138, 136, 261, 143, 61 ; for other urban districts 77, 77, 179, 125, 147, 129 ; and for rural districts 136, 106, 133, 159, 148, 61. For England and Wales as a whole they were 115, 101, 182, 182, 157, 107, and it would appear that fatality was higher in 1942–44 than before or after in all classes of area.

For paratyphoid fever the corrected fatality rates for England and Wales were 31, 21, 63, 57, 40, 70, but to what extent these are overstated by incomplete notification of this disease is unknown. In 1940–41 when the deaths totalled 118, the ratio of corrected notifications to deaths was 40 to 1, and in 1944–45 when deaths totalled only 25 it was about 20 to 1.

Table XXXVII gives, for 1944 and 1945, the corrected notification rates for each sex and deaths per 1,000 notifications without sex distinction, at three age periods for civilians. For each disease the fatality ratio increased greatly with advancing age.

Table XXXVII.—Typhoid and Paratyphoid Fevers. Corrected Notification and Fatality Rates by Sex and Age (Civilians). 1944 and 1945.

	Typhoid fever				Paratyphoid fever			
	0–	15–	45 and over	All ages	0–	15–	45 and over	All ages
	Notifications (corrected) per million living							
Males								
1944 ...	9	9	5	8	9	5	3	5
1945 ...	9	7	4	7	8	5	2	5
Females								
1944 ...	6	8	4	6	9	8	4	6
1945 ...	6	7	7	7	10	5	5	6
	Deaths per 1,000 notifications (corrected)							
Persons								
1944 ...	59	163	265	162	13	29	114	40
1945 ...	29	100	195	111	—	96	135	70

6. **Cerebro-spinal (Meningococcal) Meningitis.**—Deaths from this cause in the six years 1940–45, including those of non-civilians registered in England and Wales, numbered 2,584, 2,163, 1,206, 780, 592, 555. The number in 1939 was 517, so a large increase occurred at the start of the war, followed by a gradual return to the pre-war level.

Table XXXVIII shows that the C.M.I. for each sex was increased four-fold during the war years 1915–17 but regained its pre-1915 level in 1921–25. In the next five years it was somewhat higher, and in 1931 there was a three-fold increase, followed by a gradual return by 1935–39 to rates averaging 0·93 for males and 1·00 for females which were double those of 1921–25. In 1940 a five-fold increase occurred, followed by a fall to rather below the levels of 1935–39. Each of the three epidemics was thus characterised by a sudden increase in mortality at each age, succeeded by a gradual recession occupying about three years.

Table XXXVIII.—Cerebro-spinal Fever : Mortality at Various Ages per Million living.† 1911–30 and each year 1931 to 1945.

Year	MALES					FEMALES				
	C.M.I.	0–5	5–15	15–25	25–65*	C.M.I.	0–5	5–15	15–25	25–65*
1911–14	·448	64·6	11·9	5·8	1·8	·513	55·0	8·9	4·1	1·6
1915–17	1·613	149·8	45·7	136·2	13·2	1·827	123·0	36·5	24·8	10·7
1918–20	·857	90·0	23·8	44·2	5·7	·910	68·7	18·9	12·1	3·8
1921–25	·442	60·0	11·2	7·4	2·1	·498	48·4	9·1	5·5	1·6
1926–30	·705	98·0	15·9	11·9	3·5	·720	72·7	12·4	6·1	2·4
1931	2·184	220·2	51·6	54·5	16·5	2·094	172·6	45·8	17·4	9·8
1932	1·830	211·0	36·3	42·9	12·8	1·818	153·0	31·5	16·3	9·3
1933	1·370	174·1	26·9	28·7	8·3	1·535	139·5	27·6	12·9	6·6
1934	1·138	136·2	24·0	22·2	8·0	1·123	107·3	17·9	7·7	5·4
1935	·912	119·6	18·6	14·3	6·5	1·022	104·6	16·0	8·6	3·8
1936	·981	135·6	17·2	17·7	6·6	·990	106·2	16·5	7·2	3·2
1937	1·024	142·9	15·6	21·8	6·5	1·159	132·2	11·9	9·3	4·8
1938	1·000	127·7	15·6	18·5	8·9	1·000	104·3	17·6	6·9	3·5
1939	·742	93·8	11·2	16·5	6·0	·805	77·0	11·0	5·8	4·5
1940	3·762	385·3	67·4	77·4	41·6	4·076	297·5	55·8	42·7	27·6
1941	3·280	325·7	58·7	53·4	36·7	3·609	248·4	49·0	30·1	27·4
1942	1·788	195·9	34·6	28·0	17·7	2·000	165·0	26·4	15·1	12·8
1943	1·236	150·9	18·1	24·9	11·3	1·171	99·3	20·0	10·7	6·5
1944	·904	126·5	12·6	12·6	8·5	·879	80·6	11·5	6·3	5·4
1945	·838	113·8	10·2	15·5	7·2	·786	81·2	9·7	5·4	3·9

* Equivalent average rate.
† Corrected to 1940 classification in years 1911–1939.
Civilian mortality only 1915–1920, and from 3rd September, 1939 for males and from 1st June, 1941 for females.

The degree of increase in 1940 compared with 1939 was four-fold for each sex at ages under 5, six-fold for boys and five-fold for girls at 5–15, five-fold for men and seven-fold for women at 15–25, seven-fold for men and six-fold for women at 25–65. The rates attained in 1945 after the subsequent recession were below those of 1939 except in young children and males aged 25–65.

Table XXXIX gives the notification rates and deaths per 1,000 notifications in each year 1931 to 1945. As stated on page 85, the notifications during 1931–43 were partially corrected and the rates of those years need to be multiplied by the factor 1·045 to give original notification rates for accurate comparison with 1944–45, leading to the following trend in the rates per million :—

	1931–33	1934–36	1937–39	1940	1941	1942	1943	1944	1945
Original ...	52	25	32	293	266	144	83	71	65
Corrected ...	—	—	—	—	—	—	—	53	48

The ratio of corrected to original notifications in 1944–45 was 0·744, so if it be assumed, somewhat doubtfully, that this proportion applied also throughout 1931–43, the deaths per 1,000 notifications in those years shown in the table need to be divided by $1·045 \times 0·744 = 0·777$ to obtain fatality rates comparable with those for 1944 and 1945 (second lines in Table XXXIX and last column of Table XL). During 1931–37 the real fatality as so estimated was about 81 per cent. and it then fell to 65 per cent. in 1938, 46 per cent. in 1939, and about 28 per cent. amongst civilians in 1940. In successive years thereafter it was 27, 28, 32, 28 and 29 per cent. amongst civilians. This reduction in fatality from 80 to 30 per cent. was undoubtedly due to the introduction of treatment by sulphonamides.

Amongst non-civilians in this country, diagnosis and treatment must have been generally more prompt and the age-grouping was more favourable to survival, as will be seen below, so lower fatality rates were recorded than amongst civilians. The correction factor to apply to the rates of 1939–43

approximates to unity (1/1·045 × 0·954) and the figures may be taken as they stand, namely about eight per cent. in 1940–42, ten per cent. in 1943, eight per cent. in 1944 and 12 per cent. in 1945.

Table XL gives the distribution of notified cases amongst civilians in each year of the war by regions, and the deaths per 1,000 cases. The figures for 1940–43 are based on the partially corrected notifications of those years, and those for 1944–45 on the more completely corrected numbers then available from the quarterly returns. The corrections to be applied to the earlier years are not necessarily constant throughout the regions, and the seventh column of the table shows that the percentage ratio of original to corrected notifications in the two years 1944–45 ranged from about 110 in the South East excluding Greater London, the East and North II to about 170 in the Midlands. In the county boroughs it was 158, Greater London 127, other urban districts 120 and in rural districts 119. Whether this implies that more doubtful cases were notified in the large towns or that reporting of changed diagnoses to the Registrar General was more complete from the towns is uncertain, but probably both contributed to the differences. Assuming the former to be true, and that the same correction applied in 1939–43, the factors to be applied to the notification figures in the tables for those years (obtained by multiplying the factors on page 86 by 1·045) are :—

Greater London 0·83 ; rest of South East 0·97 ; North 0·77 ; Midland 0·62 ; East 0·92 ; South West 0·88 ; Wales 0·82 ; county boroughs 0·66 ; other urban 0·87 ; rural districts 0·88.

The resulting estimates of the corrected notification rates in the large regions and different classes of area are shown below.

	1939	1940	1941	1942	1943	1944	1945
Greater London ...	27	176	185	94	56	46	46
Rest of South East	19	251	161	92	50	50	41
North	27	195	236	135	77	55	52
Midland	22	192	153	81	49	50	50
East	17	178	150	97	52	52	39
South West	18	260	156	86	52	77	39
Wales	101	514	364	164	75	63	59
County boroughs ...	28	235	231	124	70	62	56
Other urban districts	34	238	202	109	62	52	47
Rural districts ...	20	206	159	95	52	49	39

Table XXXIX.—Cerebro-spinal Fever : Notification and Fatality Rates in 1931 to 1945, with distinction of Non-civilians from 1939.

Year	Notifications per million living	Deaths* per 1,000 notifications	Year	No. of notifications		Rate per million civilians	Deaths per 1,000 notifications	
				Civilians	Non-civilians		Civilians	Non-civilians
1931	55	652	1939	1,414	86	34	356	163
1932	53	570	1940	11,185	1,586	280	220	79
1933	42	558	1941	9,893	1,184	255	209	83
1934	27	669	1942	5,286	743	138	216	85
1935	22	701	1943	2,976	327	79	251	104
1936	24	642	1944(1)	2,684	298	71	212	74
1937	28	615	(2)	2,019	290	53	282	76
1938	31	509	1945(1)	2,491	248	65	212	113
			(2)	1,832	231	48	288	121

* Corrected to 1940 classification.
(1) Original notifications.
(2) Fully corrected by diagnosis revision.

(86504) D

Table XL.—Cerebro-spinal Fever: Prevalence and Fatality in Regions and different classes of Area. 1940 to 1945 (Civilians only).

	Notified cases per million (excluding non-civilians)						Original per 100 corrected notifications	Deaths per 1,000 cases notified		
	1940	1941	1942	1943	1944*	1945*	1944–45	1940–41	1942–43	1944–45*
England and Wales‡ ...	**280**	**255**	**138**	**79**	**53**	**48**	**134**	**215**	**229**	**285**
South East	233	196	105	61	48	44	118	208	239	286
Greater London ...	212	223	113	68	46	46	127	189	209	310
Remainder	259	166	95	52	50	41	108	231	283	257
North	253	307	175	100	55	52	135	225	233	310
North I	272	270	172	128	78	69	129	229	226	263
North II	213	252	112	72	51	49	109	257	318	356
North III	229	289	170	91	47	47	137	244	258	326
North IV	269	341	191	101	52	49	142	209	211	317
Midland	309	246	131	79	50	50	171	224	221	264
Midland I	303	261	133	77	48	47	176	230	225	289
Midland II	320	219	128	83	55	54	162	213	213	222
East	194	163	105	57	52	39	113	267	277	331
South West	296	177	98	59	77	39	119	213	208	256
Wales	627	444	200	92	63	59	128	177	189	222
WalesI	671	495	235	110	69	68	131	169	180	197
Wales II	518	327	118	49	49	35	114	205	230	322
County boroughs† ...	356	350	188	106	62	56	158	205	216	265
Other urban districts† ...	273	232	125	71	52	47	120	224	248	285
Rural districts†	234	181	108	59	49	39	119	246	244	304

* Fully corrected by diagnosis revision.

† Excluding Greater London.

‡ Including Port Health Districts.

Table XLI.—Cerebro-spinal Fever: Corrected Notification and Fatality Rates by Sex and Age. 1944 and 1945.

Age	Notifications* per million living				Deaths per 1,000 notifications*			
	1944		1945		1944		1945	
	M	F	M	F	M	F	M	F
Civilians—								
0–	269	217	263	190	470	372	433	428
5–	96	68	90	67	131	169	113	144
15–	56	31	46	25	171	158	207	161
45–	20	19	17	15	407	350	390	304
65 and over ...	5	5	5	5	778	833	1,100	667
All ages	68	43	62	37	297	265	299	275
Non-civilians ...	257†	31†	217†	14†	86	—	120	143

* Fully corrected by diagnosis revision.

† Numbers of notifications in England and Wales.

In most parts of the country the initial increase in notified prevalence in 1940 was followed by a continuous decline to 1943, but in Greater London and the North the peak was not reached until 1941, and in the North the return to a steady level around 50 per million was not accomplished until 1944. Wales, where the rate was already high in 1939, produced the highest level of any of the regions in 1940–42, but by 1945 prevalence was little above average. The Southern regions ranked next in 1940 with rates about 250 per million, a level almost reached by the North in the following year. Greater London rates were below those of other towns in the aggregate throughout the epidemic period, and rural district rates were also at a lower level, though the contrast was not remarkable.

Table XLI shows the effect of sex and age upon the notification and fatality rates in 1944–45 amongst civilians. At all ages, males were affected more than females, the excess being 58 per cent. in 1944 and 68 per cent. in 1945. Children under five registered three times the rates of children aged 5–15, and between 11 and 15 times those of adults aged 45–65. Male excess was greatest at about 80 per cent. amongst young adults, and disappeared at ages over 65.

Fatality was higher amongst males than females at ages between 15 and 65, and this was true at ages under five in 1944 though not in 1945. On the other hand girls of 5–15 showed excess over boys of that age. Fatality was 11 to 17 per cent. for children aged 5–15, and 16 to 21 per cent. for young adults, but it averaged about 43 per cent. for young children and increased to still higher levels at advanced ages. It is evident that the low fatality amongst non-civilians was in large measure explained by their age selection.

8. **Scarlet Fever.**—Deaths from scarlet fever in the five years 1935–39 numbered 499, 440, 305, 311, 183, and in the six years 1940–45 they were 154, 133, 104, 134, 107, 84. The death-rate per million living at ages under 15, which was 2,282 in 1861–70, 271 in 1901–10 and 50 in 1931–35, declined further to 10 in 1941–45, a reduction as remarkable as that for enteric fever (Table 9).

Table XLII shows the notification rates at ages under five and 5–15 during 1944 and 1945, and the deaths per 1,000 notifications at all ages in three periods 1940–41, 1942–43 and 1944–45, in each region and class of area. Correction of diagnosis has little effect on the notification totals, as the table on page 86 shows, and the fatality ratios for 1940–41 and 1942–43 have been adjusted to allow for it.

Notified prevalence amongst children under five was 6·5 per 1,000 in 1944 and 5·3 in 1945 ; and at ages 5–15 it was 10·6 and 8·4 per 1,000. This means that about 11 per cent. of children will be notified for scarlet fever before reaching age 15 according to 1945 rates. In the county boroughs, notified prevalence is about 17 per cent. above average at ages under five, and about 14 per cent. above at 5–15 ; and in the rural districts it is about 25 per cent. below average at 0–5 and 18 per cent. below at 5–15. Since the ratio of deaths to notifications is consistently highest in rural districts and lowest in county boroughs, this may indicate merely that notification is more complete in the latter. The two regions with lowest notification rates, South West and Wales II, had also the highest fatality ratios in 1944–45, but they are almost entirely rural areas. The other ten regions show no evidence of any correlation between notification and fatality rates. Midland I and II, for example, recorded very different notification rates in 1944–45, but their fatality ratios were the same. The regions with highest prevalence in the period were North III, North IV and Midland II.

Table XLIII gives the rates of notified prevalence and fatality by sex and age in each year 1944 and 1945. A male excess in prevalence at ages 1–3 gives place to a female excess after the third year which increases with advancing age. The rates are maximal at 5–10 for each sex. Fatality is much higher amongst boys than girls up to age three, but shows no difference at 3–5, and appears to be greatest amongst girls at the school ages. The first year of life carries a very much greater fatality risk than subsequent years.

The fatality ratio at all ages averaged 17·7 in 1911–15, 11·0 in 1921–25, 5·9 in 1931–35, 3·6 in 1937–38, 2·4 in 1940–41 and 1·1 in 1944–45.

Table XLII.—Scarlet Fever: Corrected Notification Rates in Regions and different classes of Area at Ages 0–5, 5–15 in 1944 and 1945. Fatality at all Ages, 1940–45.

	Notifications† per 100,000 living at				Deaths per 1,000 cases notified at all ages (civilians only)		
	Ages 0–5		Ages 5–15				
	1944	1945	1944	1945	1940–41‡	1942–43‡	1944–45†
England and Wales	**652**	**531**	**1,056**	**836**	**2·4**	**1·2**	**1·1**
South East	568	454	879	733	1·8	0·9	0·9
Greater London ...	619	531	870	796	1·3	0·7	0·9
Remainder ...	511	366	890	663	2·1	1·3	0·8
North	809	652	1,300	986	2·5	1·0	1·0
North I	557	511	881	743	4·2	1·0	1·0
North II ...	646	549	990	869	2·5	0·5	1·1
North III	910	667	1,520	941	2·2	0·8	0·9
North IV	881	718	1,416	1,137	2·3	1·3	1·0
Midland	636	549	1,074	907	2·6	1·8	1·6
Midland I ...	578	475	879	717	3·0	2·1	1·6
Midland II ...	756	698	1,452	1,281	1·9	1·1	1·6
East	478	308	1,006	577	2·9	1·6	1·1
South West	379	320	662	547	2·2	1·8	2·0
Wales	671	586	953	770	3·0	1·4	1·4
Wales I	751	655	1,047	856	3·2	1·0	1·0
Wales II	469	402	714	547	2·4	2·7	2·8
County boroughs* ...	754	626	1,195	958	2·3	1·0	0·9
Other urban districts*	665	526	1,112	849	2·6	1·4	1·2
Rural districts* ...	504	385	900	653	2·7	1·9	1·7

* Excluding Greater London.

† Fully corrected by diagnosis revision.

‡ Adjusted to allow for diagnosis revision.

Table XLIII.—Scarlet Fever : Corrected Notification and Fatality Rates by Sex and Age, 1944 and 1945.

Ages.	Notifications† per 100,000 living				Deaths per 1,000 notifications†			
	1944		1945		1944		1945	
	M.	F.	M.	F.	M.	F.	M.	F.
0– ...	55	47	49	53	10·3	6·3	17·1	5·6
1– ...	487	465	399	368	3·3	1·8	3·7	2·5
3– ...	1,201	1,245	988	1,007	1·3	1·3	0·9	0·9
5– ...	1,339	1,583	1,055	1,236	0·8	1·0	0·5	0·8
10– ...	551	755	436	611	0·3	0·6	0·5	0·7
15 and over	31	43	23	33	3·2	1·5	1·4	3·0
All ages ..	**252**	**230**	**199**	**182**	**1·2**	**1·1**	**1·0**	**1·2**

† Fully corrected by diagnosis revision.

9. **Whooping Cough.**—Deaths from this cause and its complications during the five years 1935–39 numbered 1,473, 1,918, 1,600, 1,052, 1,229, and in the six years 1940–45 they were 678, 2,383, 799, 1,114, 1,054, 689. The death-rate per million living at ages under 15, which was over 1,300 in 1851–80, 815 in 1901–10, and 223 in 1931–35, fell to 146 in 1936–40 and 140 in 1941–45 (Table 9). In 1941 this death-rate was 279, the highest since 1932, but in the four years following it was 94, 129, 121, 79.

Notification of the disease was introduced at the beginning of the war, and the numbers notified in successive years from 1940 to 1945 were 53,607, 173,330, 66,016, 96,136, 94,044, 62,691, showing, as do the deaths, the epidemic prevalence in 1941. The effect of diagnosis correction on the numbers for years 1940–43 cannot have been appreciable and may be neglected ; in 1944–45 there were 157,111 original notifications, reduced to 156,735 after correction, giving a ratio of 0·998. It is justifiable, therefore, to compare the ratios of notifications to deaths at all ages in the six years, which were as follows :—79, 73, 83, 86, 89, 91. These show a rising trend which might be due to increasing completeness of notification, falling fatality or changing age distribution of cases. The 1944–45 ratio of 90 notified cases per death, or 11 deaths per 1,000 cases, at all ages may be compared with the higher fatality ratio of 16·7 at ages 0–5.

Table XLIV shows that notified prevalence amongst children under five was 20 per 1,000 in 1944 and 13 in 1945 ; and at ages 5–15 it was six and four. This means that according to 1944 rates, about 16 per cent. of children would be notified for whooping cough before reaching age 15, and the estimate would be about the same if the average prevalence in 1941–45 could be taken as basis, since the mean annual notifications at all ages were 98,443 compared with 94,044 in 1944 only. Studies of whooping cough incidence in some parts of London between the wars suggested that a higher proportion than this

(86504) D 3

suffered an attack of whooping cough, but no reliable estimate has been arrived at for the country as a whole, and the incidence in London boroughs might well have been above the national average. Although it is certain that whooping cough escapes notification in large measure, it is unknown to what extent the estimate of 16 per cent. of children affected before age 15 falls short of the real figure. Amongst children admitted to boarding schools during 1930-34, about 70 per cent. of boys and 67 per cent. of girls were said to have had whooping cough.*

Notified prevalence in 1944–45 showed slight excess in the county boroughs compared with rural districts at ages under five, but the fatality ratios were correspondingly lower, which suggests that the difference arises from rather more complete notification in the large towns. The regions with lowest notification rates at ages 0–5 in 1944 were Wales I, North II, North III and Wales II, and three of these regions registered the highest fatality ratios. In 1945, Wales and the South East gave the lowest rates of prevalence and Wales registered also very high fatality ratios, but the South East showed low fatality, whilst North II and III gave average prevalence and fatality rates in that year. The figures suggest that notification of whooping cough in Wales is very incomplete, but give no indication of this for other regions.

The death-rate at ages under five in 1944 was high in Greater London and Wales II and low in North III ; in 1945 it was high in Midland I, North IV and Wales I and low in the South East and North I.

Table XLV gives the rates of notified prevalence and fatality by sex and age. It has long been observed that mortality of females exceeds that of males for this disease, but it has not been certain to what extent this is due to differences in fatality. The notification rates show a consistent excess for females at each age in both years 1944 and 1945. The crude rates at all ages combined give an entirely wrong impression, the male excess being due to much smaller numbers of that sex in the population over 15, at which ages prevalence rates are small. Prevalence is greatest at ages 3–5, slightly lower at ages 1–3, and about half as great at 5–10.

Fatality rates also are greater amongst girls than boys at ages up to ten, after which the numbers of deaths are too small to provide a significant comparison between the sexes. The fatality risk is maximal in the first year of life ; in the next two years it is less than one-fifth as great, and in the fourth and fifth years falls again to about the same extent.

---

* Medical Research Council. Epidemics in Schools. Table LIX. 1938.

Table XLIV.—Whooping Cough: Notification Rates at Ages 0–5 and 5–15, Death-rates and Fatality Rates in Regions and different classes of Area. 1944 and 1945.

	Notifications † per 1,000 living at				Deaths at ages 0–5			
	Ages 0–5		Ages 5–15		Per million living		Per 1,000 notifications†	
	1944	1945	1944	1945	1944	1945	1944	1945
England and Wales	**20**	**13**	**6**	**4**	**338**	**213**	**17**	**16**
South East	23	11	7	4	388	141	17	13
Greater London	26	12	7	3	472	137	18	11
Remainder	20	10	8	4	295	145	15	14
North	18	14	4	3	294	237	16	17
North I	17	12	4	3	310	146	18	12
North II	15	13	5	4	330	224	22	17
North III	15	15	4	4	209	238	14	15
North IV	21	15	5	3	329	273	16	19
Midland	19	16	5	4	327	265	18	17
Midland I	18	18	5	4	292	309	16	18
Midland II	19	13	5	4	399	177	21	14
East	22	14	9	6	312	254	14	18
South West	17	14	7	5	292	204	17	15
Wales	15	8	4	2	414	256	28	31
Wales I	14	8	3	1	355	263	25	31
Wales II	16	7	5	2	560	238	36	33
County boroughs*	20	16	4	3	331	225	17	16
Other urban districts*	18	13	5	3	283	218	16	17
Rural districts*	17	12	7	5	334	203	20	18

* Excluding Greater London. † Fully corrected by diagnosis revision.

Table XLV.—Whooping Cough: Corrected Notification and Fatality Rates by Sex and Age, 1944 and 1945.

Ages	Notifications* per 1,000 living				Deaths per 1,000 notifications*			
	1944		1945		1944		1945	
	M.	F.	M.	F.	M.	F.	M.	F.
0– ...	14·5	15·1	9·4	10·0	62·6	72·1	58·2	64·9
1– ...	19·4	22·0	12·7	14·4	9·4	13·0	9·1	14·1
3– ...	20·7	24·1	14·2	16·5	0·9	3·0	1·7	3·4
5– ...	9·8	11·2	6·0	7·0	0·9	1·1	0·7	1·5
10– ...	0·8	1·0	0·5	0·6	0·9	—	1·4	—
15 and over	0·0	0·1	0·0	0·0	2·7	1·6	—	1·3
All Ages ...	**2·7**	**2·3**	**1·8**	**1·5**	**10·3**	**12·0**	**9·9**	**12·0**

* Fully corrected by diagnosis revision.

10. **Diphtheria.**—Deaths from diphtheria in the five years 1935–39 numbered 3,408, 3,003, 2,898, 2,861, 2,133, and in the six years 1940–45 they were 2,480, 2,641, 1,827, 1,371, 934, 722. The death-rate per million living at ages under 15, which exceeded 1,300 during 1856–65 and was around 800 during 1871–1900, declined during the first two decades of this century to a level between 220 and 400 which was then maintained with no consistent change until 1941. A rapid fall then began, bringing the rate to 67 by 1945 (Table 9).

(86504) D 4

Table XLVI shows the progression of death-rates since 1906 at different ages and the change in their relative values. Mortality is consistently highest in the fourth and fifth years, and at those ages the average rate of 1944–45 was about one-seventh of that in 1906–10. In the second and third years of life it was about one-ninth and at 5–10 one-fifth. Comparison of 1944–45 with the more recent period 1931–35, however, shows no such differences in the rate of decline, and the further progression of mortality towards the age-group 5–10 which was commented on in 1936–38 was not maintained but rather reversed in the years following. The lower part of the table shows that the death-rate in the third year of life has not differed consistently from that at 5–10 since 1931, and the death-rate in the second year regained during 1940–44 the proportion of about two-thirds of that rate. At ages after ten the fall in death-rates since 1942 has lagged behind that at other ages. In 1942 deaths of civilians over 15 numbered 170, and in 1945 there were 110 in about the same population of 30 millions, a fall of 35 per cent.; but at ages under 15 the death-rate fell by 65 per cent. Comparison of the position in 1945 with that in 1906–10 shows a remarkable levelling out of the death-rates at different ages.

Table XLVII shows how the death-rates at ages 0–5 and 5–15 have changed since 1938 in each region and class of area. With the exception of Greater London and North I, every region registered in 1940–41 an increase in mortality at ages under five, this being most pronounced in the South West and Wales I. In the county boroughs the percentage increase over 1938–39 rate was 45 per cent., in other urban districts there was no increase and in rural districts it amounted to 20 per cent. At ages 5–15 the only regions registering an appreciable rise in mortality in 1940–41 were the South West and Wales I; but the county boroughs as a whole showed an increase of 26 per cent. compared with decreases of 19 per cent. in Greater London, 26 per cent. in other urban areas and 35 per cent. in rural districts. The contrast between the behaviour of death-rates at 0–5 and 5–15 in the country as a whole in those years was probably due to evacuation of school children, though this is not apparent from the regional rates.

Certain local authorities introduced schemes of immunisation against diphtheria after the issue of memoranda on the subject by the Ministry of Health in 1922 and 1932, and a few large towns had immunised 30 per cent. or more of their children of pre-school ages by 1937, but no more than five per cent. had been immunised in London at that time. During 1940 a campaign to secure an adequate degree of immunisation of the child population was launched, and by the end of 1944 more than two million children under five and $3\frac{1}{4}$ million children of school ages had been immunised under local authorities' schemes.* This meant that not less than 55 per cent. of children under 15 at that time had been artificially immunised, and Table A on page 283 of this Review shows that by the end of 1945 the proportion was not less than 60 per cent. In addition a substantial proportion of children had acquired natural immunity by contact with infection whilst escaping the clinical manifestations of the disease.

By 1944 the death-rate at ages under five in the country as a whole was 37 per cent. of that in 1938–39, and in 1945 it was down to 26 per cent. At ages 5–15 the corresponding levels reached were 33 per cent. in 1944 and 24 per cent.

*On the State of the Public Health during six years of War, Ministry of Health, 1946.

in 1945. The rate of reduction compared with 1938–39 rates was greatest in the rural districts and Greater London and least in the county boroughs, as shown below :—

Ages	Year	Greater London	County boroughs	Other urban districts	Rural districts	England and Wales
0–5	1944	28	38	41	29	37
	1945	22	27	26	22	26
5–15	1944	26	34	35	24	33
	1945	22	27	25	15	24

Table XLVI.—Diphtheria and Croup Mortality according to Age, 1906–1935 and each year 1936 to 1945.

Years	Ages								
	0–	1–	2–	3–	4–	5–	10–	15–	25 and over
Deaths per 100,000 (related live births at 0–1, estimated civilian population at other ages)									
1906–10	24	82	88	104	101	51	8	1	1
1911–15	20	67	74	89	89	50	10	1	0
1916–20	19	65	77	91	93	52	11	2	0
1921–25	15	49	53	61	62	36	8	1	0
1926–30	15	43	46	51	56	36	9	1	1
1931–35	10	28	41	55	59	41	10	1	1
1936	11	21	44	52	64	47	10	1	0
1937	11	22	41	53	65	44	11	1	0
1938	9	19	37	53	58	47	11	1	0
1939	7	15	33	46	43	32	8	1	0
1940	9	23	37	48	53	37	9	1	0
1941	13	22	43	59	68	36	8	2	0
1942	7	17	24	38	41	26	6	2	0
1943	8	11	19	26	29	17	5	2	0
1944	4	9	12	16	20	12	4	1	0
1945	2	10	8	11	11	9	3	1	0
Rates per cent. of corresponding rate at 5–10 years									
1906–10	—	161	173	204	198	100	16	2	2
1911–15	—	134	148	178	178	100	20	2	1
1916–20	—	125	148	175	179	100	21	4	1
1921–25	—	136	147	169	172	100	22	3	1
1926–30	—	119	128	142	156	100	25	3	1
1931–35	—	68	100	134	144	100	24	2	1
1936–39	—	45	91	120	136	100	23	2	0
1940	—	62	100	130	143	100	24	3	1
1941	—	61	119	164	189	100	22	6	1
1942	—	65	92	146	158	100	23	8	1
1943	—	65	112	153	171	100	29	12	3
1944	—	75	100	133	167	100	33	8	2
1945	—	111	89	122	122	100	33	11	3

Mortality corrected to conform with the classification in use from 1940.
Infant mortality rates based on related live births from 1926 onwards.

Table XLVII.—Diphtheria: Mortality at Ages 0–5, 5–15 in Regions and different classes of Area 1938–39, 1940–41, 1944 and 1945.

	Deaths per million living (civilians only) at							
	Ages 0–5				Ages 5–15			
	1938–39†	1940–41	1944	1945	1938–39†	1940–41	1944	1945
England and Wales	**316**	**376**	**117**	**81**	**243**	**221**	**79**	**59**
South East	181	171	50	42	138	95	39	33
Greater London	223	199	63	50	146	118	38	32
Remainder of S.E.	123	145	34	33	126	76	39	34
North	479	537	179	124	366	311	130	90
North I	573	551	227	246	509	345	221	129
North II	339	460	230	117	219	174	91	56
North III	356	373	189	91	251	256	121	97
North IV	542	644	144	100	402	367	108	78
Midland	294	376	127	82	261	214	74	57
Midland I	292	393	152	82	239	205	88	57
Midland II	300	343	76	81	302	229	45	57
East	170	188	62	60	137	90	19	30
South West	230	409	49	24	119	288	51	36
Wales	402	574	184	116	256	331	88	66
Wales I	430	659	209	118	240	357	87	66
Wales II	324	351	123	110	300	270	91	66
County boroughs*	414	599	159	111	284	358	97	77
Other urban districts*	343	338	141	90	294	217	102	73
Rural districts*	197	237	57	44	188	123	46	29

* Excluding Greater London.
† Corrected to conform with the method of classification from 1940 onwards.

Of the regions, North IV showed the greatest relative reduction in mortality at both ages, rates in 1945 being only 18 and 19 per cent. of those in 1938–39. The South West, however, registered a larger reduction amongst children under five, whose rate fell to ten per cent. of that in 1938–39. The smallest reductions were in North I and the East at ages 0–5, and in North III at 5–15.

The trend of notifications of diphtheria may be judged from the following figures, the original notifications in 1938–43 being estimated from the partially corrected figures published for those years by applying the factor 1·044 found to apply in 1943 (*see* page 85) :—

Year	Number of notified cases			Corrected per cent. of original	Deaths per 1,000 corrected notifications	Deaths per 1,000 original notifications
	Partially corrected	Original	Fully corrected			
1938 ...	65,008	67,868	—	—	—	**42**
1939 ...	47,343	49,426	—	—	—	**43**
1940 ...	46,281	48,317	—	—	—	**51**
1941 ...	50,797	53,032	—	—	—	**50**
1942 ...	41,404	43,226	—	—	—	**42**
1943 ...	34,662	36,187	—	—	—	**38**
1944 ...	—	29,949	23,199	77·5	40	**31**
1945 ...	—	25,246	18,596	73·7	39	**29**

Notified cases of diphtheria declined by 1945 to less than half the average numbers returned in years 1938–39. The proportion of deaths to original notifications also decreased, but it is uncertain to what extent the true fatality ratio fell. It is known that the practice of notifying doubtful cases has increased in recent years, and the ratio of corrected to original cases would probably not have been as low as 77 per cent. in 1938–39. It is safe to assume, however,

that it would not have exceeded 90 per cent., giving a minimal estimate of 47 deaths per 1,000 true cases notified in 1938–39, compared with about 40 in 1944–45, and this improvement in fatality occurred after 1942.

Table XLVIII shows the corrected notification and fatality rates by sex and age in 1944 and 1945. Notified prevalence is much greater amongst boys than girls up to age five, but becomes greater for girls at 5–10 with increasing female excess as age advances. The sex-ratios at different ages, expressing the male rate as a percentage of the female rate, were as follows in the two years :—

	0–	1–	3–	5–	10–	15 and over	All ages
1944	145	120	103	93	83	48	99
1945	120	121	109	91	82	55	100

Comparing 1945 with the year preceding, each sex registered about the same fall in prevalence ; but the proportionate decrease varied with age, amounting to about 30 per cent. in the first year of life, 25 per cent. at 1–3 years and 20 per cent. at 5–15. The rates at ages up to 15 imply that about two per cent. of children born in that year would expect to be notified for diphtheria before reaching their 15th birthday ; but if the rates continue to fall the proportion will prove to be smaller.

The fatality ratios show curious contrasts between the sexes in each year, which may however prove to be accidental when more years are available for study ; in infancy boys gave higher rates than girls, but this was reversed at 1–3 years, whilst at 3–10 there was no consistent sex difference and at higher ages there was again a male excess. In 1945, fatality was about ten per cent. at ages under three, falling to six per cent. at ages 3–5, four per cent. at 5–10, and two or three per cent. at higher ages.

Table XLVIII.—Diphtheria : Corrected Notification and Fatality Rates by Sex and Age (Civilians), 1944 and 1945.

Ages	Notifications* per 100,000 living				Deaths per 1,000 notifications*			
	1944		1945		1944		1945	
	M.	F.	M.	F.	M.	F.	M.	F.
0– ...	48	33	30	25	113	63	112	72
1– ...	122	102	91	75	80	109	101	108
3– ...	234	228	188	172	68	89	61	59
5– ...	248	266	201	221	48	46	43	43
10– ...	143	173	113	138	28	19	25	18
15 and over	13	27	11	20	22	17	30	20
All ages ...	**58**	**59**	**46**	**46**	**46**	**38**	**45**	**35**

* Fully corrected by diagnosis revision.

Table XLIX shows the regional distribution of notified prevalence and fatality in 1944 and 1945, based on the numbers of corrected notifications. In 1944, prevalence was 3½ times as great in county boroughs as in rural

districts at ages under five, and three times as great at 5–15 ; and in 1945, county borough rates were 2½ times the rural figures at each age. The regional comparison is very much the same in each year and at each age-group. North I gave the highest rates throughout, amounting to 2½ times the national rates at ages 0–5 and three times those figures at 5–15. Next in the ranking came North III, North IV and Wales (not always in the same order), followed by North II in the fifth and Midland I in the sixth place. On the other hand, the South East, excluding Greater London, gave lowest rates of prevalence, about a quarter of the national rates in 1944 and a third in 1945. Next best were the East and South West, except at ages 5–15 in 1944 when Greater London had a very low rate. In 1945, Greater London's rates at each age were about two-thirds of the national rates and little higher than those of the rural districts. The improvement in 1945 compared with the previous year was more pronounced in county boroughs than other classes of area, and relatively greater in Wales than in the English regions.

The fatality ratios in Table XLIX for years 1940–41 and 1942–43 are estimates based on the assumption that the degree of diagnosis correction in those years would have been the same as in 1944 for the region in question. In England and Wales, for example, as shown by the table on page 100, the original notifications in 1940–41 were estimated at 101,349, and the effect of diagnosis correction in 1944 was to reduce original notifications to 77·5 per cent. of the original total, giving 78,545 ; and since deaths numbered 5,121, the fatality ratio is estimated at 65 per 1,000. As already mentioned, it is possible that original notifications were not quite so greatly overstated in 1940–41 as in 1944, and if so, all the fatality rates for those years in the table may be over-estimated by upwards of one-tenth of their values, but for this there is no statistical evidence. The regional variation in fatality in 1940–41 and 1942–43 was not statistically significant ; and in 1944–45 the only noteworthy variation was an unusually high value in the South East excluding Greater London, this region showing no apparent decrease in fatality during the period of the war.

Table L gives notification rates in 25 large towns and residual areas for periods 1935–38 and 1939–43 without correction, and for 1944–45 based on original and corrected notifications, the purpose being to compare the order of ranking of the towns in the three periods rather than to measure the changes accurately. The towns are arranged in descending order of the 1935–38 figures, and the first five with highest rates were all in the North, whereas the last five with lowest rates were in Midland or Southern regions. The mean rate of the first five was 1·48 times the mean of all 25 towns in 1935–38 ; in 1939–43 this ratio was 1·44, and in 1944–45 (column (1)) it was 1·83. Corresponding ratios for the last five towns in the three periods were 0·58, 0·52, 0·54. The contrast between the extreme groups increased rather than diminished during the ten years, and there was no levelling out of rates of prevalence in the large towns as a result of immunisation. The mean rate of the first ten towns was 1·86 times that of the last ten in 1935–38, and the ratio for the same towns in 1944–45 was 1·74.

Individual towns show great contrasts in the trend of prevalence, in so far as it can be estimated by comparing the original notification rate in 1944–45 with 1·044 times the rate in 1935–38. Portsmouth's rate fell from 132 to 7, Southampton's from 223 to 24, Croydon's from 115 to 16, London's from 204 to 49, and Swansea's from 233 to 63. On the other hand, Liverpool's rate improved only from 305 to 227, Salford's from 301 to 231, Plymouth's from 197 to 137, Bolton's from 133 to 108 and Coventry's from 129 to 112. Such contrasts probably resulted from differing degrees of immunisation attained in the various towns (*see* Appendix, pages 280–282). The range from lowest to highest rate in 1935–38 was 111–346, but in 1944–45 it was 7–231.

Table XLIX.—Diphtheria : Corrected Notification Rates in Regions and different classes of Area at Ages 0–5, 5–15 in 1944 and 1945. Fatality at all Ages, 1940–45.

	Notifications† per 100,000 living at				Deaths per 1,000 cases notified at all ages		
	Ages 0–5		Ages 5–15				
	1944	1945	1944	1945	1940–41‡	1942–43‡	1944–45†
England and Wales	**139**	**106**	**207**	**169**	**65**	**53**	**40**
South East	61	54	64	82	68	58	51
Greater London	82	71	77	104	68	58	44
Remainder of South East ...	38	34	50	57	64	60	63
North	232	170	366	283	69	53	37
North I	338	273	600	500	68	56	35
North II	188	136	260	189	75	57	43
North III	252	150	378	241	56	48	36
North IV	190	151	288	240	79	54	37
Midland	125	98	179	149	66	55	46
Midland I	152	112	221	163	70	57	45
Midland II	70	68	99	121	57	49	51
East	58	43	97	78	65	57	43
South West	66	60	108	79	74	69	42
Wales	209	147	307	192	57	43	37
Wales I	211	145	306	197	59	45	38
Wales II	205	154	309	180	54	38	35
County boroughs*	224	154	319	238	73	53	36
Other urban districts*	135	104	228	181	61	55	45
Rural districts*	64	60	106	90	61	51	42

* Excluding Greater London.
† Fully corrected by diagnosis revision.
‡ Adjusted to allow for diagnosis revision.

Table L.—Diphtheria : Notification Rates in 25 Large Towns, and aggregates of other Urban and Rural Areas, 1935–38, 1939–43 and 1944–45. Numbers of Corrected Notifications and degree of Diagnosis Revision, 1944 and 1945.

	Notifications per 100,000 living*				No. of corrected notifications		Original per 100 corrected notifications	
	1935–38 (2)	1939–43 (2)	1944–45 (1)	(3)	1944 (3)	1945 (3)	1944	1945
Sheffield	331	221	127	74	442	258	155	202
Birkenhead	297	254	110	33	20	60	585	247
Liverpool	292	286	227	107	755	686	191	235
Salford	288	282	231	147	269	191	165	146
Bradford	286	134	215	215	695	432	100	100
Kingston-upon-Hull	281	157	104	62	165	132	161	173
Swansea	223	395	63	57	119	40	113	103
Manchester	217	145	91	46	266	302	215	185
Southampton	214	54	24	24	38	26	100	100
West Ham	210	76	100	64	36	132	183	149
Leeds	206	98	69	43	241	143	151	183
Newcastle-on-Tyne	199	123	126	131	304	388	104	90
London admin. county...	195	80	49	31	758	800	155	162
Cardiff	194	175	100	42	120	63	230	249
Sunderland	193	269	103	98	162	157	107	104
Plymouth	189	304	137	107	164	158	127	130
Leicester	177	213	63	45	133	98	139	140
Birmingham	173	151	108	57	694	445	169	221
Stoke-on-Trent	162	103	57	42	131	78	134	144
Bolton	127	140	108	87	142	125	130	118
Portsmouth	126	38	7	8	16	12	81	83
Coventry	124	97	112	79	206	146	130	158
Bristol	123	137	71	29	160	79	219	287
Croydon	110	42	16	12	19	29	111	141
Nottingham	106	112	63	36	82	110	159	184
Other county boroughs	165	146	103	84	4,803	3,337	121	127
Other urban districts	132	95	59	48	8,464	6,939	122	126
Rural districts	99	74	38	33	2,681	2,214	114	115
England and Wales	**152**	**110**	**69**	**52**	**22,085**	**17,580**	**130**	**137**

* Excluding non-civilians after 1939.

(1) Original notifications. (2) Notifications as returned to Registrar General (without diagnosis corrections by I.D. Hospitals). (3) Fully corrected for diagnosis revision.

The last columns of the table show the extent of diagnosis correction in each town in 1944 and 1945, the original numbers of notifications being expressed in terms of the final numbers taken as 100. Three towns, Birkenhead, Cardiff and Bristol, give conspicuously high figures, indicating the notification of doubtful cases in very large numbers. These towns all produced low corrected rates, and if the high frequency of precautionary notification in Birkenhead did not apply in 1935–38, the decline in real prevalence must have been as great there as in Croydon. In Manchester, Liverpool and Birmingham, about half the cases notified were not confirmed, compared with about three out of eight in London, one out of four in the country as a whole, one out of five in the small towns and one out of eight in the rural districts.

Table LI shows the corrected notification rates at ages 0–5 and 5–15 in the two years 1944 and 1945, and the mean annual death-rates from diphtheria at those ages in 1944–45, for each of the 25 largest towns and for the aggregates of other county boroughs, other urban districts and rural districts. In the last two columns are shown the proportions, per 1,000 children in the population, who at the end of 1945 were known to have been immunised at some time according to the returns made to the Ministry of Health by each local authority. The statistical difficulties involved in those records are discussed in the Appendix, where a complete analysis is made of the position at the end of 1945 as indicated by the returns. It is sufficient here to state that the returns from certain areas were clearly defective for various reasons, and that such areas have been omitted from Table LI and from the national totals.*

* For West Ham, which is one of the 25 towns, notification and death-rates are shown in the table for comparison with other towns.

Table LI.—Diphtheria : Proportions of Children known to have been immunised in 25 Large Towns, other Urban and Rural Areas, 1945. Notification and Mortality Rates at 0–5, 5–15 in 1944 and 1945.

	Corrected notifications per 100,000 living at				Deaths per 100,000 living in 1944–45 at ages		Proportion known to have been immunised by end of 1945 per 1,000 living aged	
	Ages 0–5		Ages 5–15					
	1944	1945	1944	1945	0–5	5–15	0–5	5–15
Birkenhead	63	130	41	174	30·9	7·6	315	561
Birmingham	197	110	235	169	10·4	3·8	694	887
Bolton	223	167	315	279	16·9	7·2	431	646
Bradford	736	441	1,171	758	34·5	30·2	523	547
Bristol	87	34	172	85	3·2	2·8	413	611
Cardiff	129	45	177	94	20·1	3·1	548	837
Coventry	267	165	333	230	19·5	6·9	408	517
Croydon	26	51	19	52	3·2	1·9	454	562
Kingston-upon-Hull	163	91	288	217	12·0	2·4	352	518
Leeds	137	54	202	120	5·8	3·8	564	841
Leicester	108	90	195	131	4·8	6·7	473	791
Liverpool	332	266	323	313	23·9	9·8	382	676
London admin. county	138	99	115	125	7·5	4·2	412	550
Manchester	78	91	177	218	2·0	8·8	528	783
Newcastle-on-Tyne	356	324	381	564	21·2	16·8	424	794
Nottingham	80	112	98	134	14·3	3·7	409	769
Plymouth	232	251	461	320	11·4	13·4	296	585
Portsmouth	38	29	19	15	3·3	2·1	383	953
Salford	495	439	695	443	15·4	10·4	529	733
Sheffield	262	159	309	171	11·6	7·2	452	742
Southampton	64	22	106	63	7·6	4·9	328	777
Stoke-on-Trent	90	83	224	96	10·5	5·0	397	789
Sunderland	260	247	297	272	11·9	11·6	451	616
Swansea	188	36	294	134	4·6	2·2	494	794
West Ham	67	174	119	476	—	4·6	†	†
Other county boroughs	244	163	365	255	14·8	10·4	428*	707*
Other urban districts	115	91	188	157	10·0	7·5	485*	706*
Rural districts	62	58	102	88	5·1	3·8	472*	752*
England and Wales	**138**	**105**	**206**	**167**	**9·8**	**6·9**	**469***	**711***

* These figures exclude districts whose immunisation records were incomplete.
† West Ham C.B. is a district sending incomplete data.

Immunisation on a large scale did not commence in many areas until 1942 or later, and the proportions of children who had been immunised by the end of 1943 were much lower than those shown in the table in most of the towns; so the ranking of the 25 towns in the table probably differed considerably at the beginning and end of the period 1944–45. Any correlation there may have been between the notification and death-rates in 1944–45 and the immunisation position at the exact time to which the rates refer, will be obscured, not only by the fact that the position is known only at the end of the period, but also by great variations from time to time in the epidemicity of the disease in the different towns. It was pointed out in the Review for 1938–39 that the 25 towns showed entirely different ranking according to their notification rates in 1935–38 from that in 1926–30. This may be seen when the average notification rates are compared for the ten northern towns and the 15 other towns in those two periods, and in 1944 and 1945 (*see* table below for the rates on which the averages are based).

	Average of rates per 100,000 at all ages		Average of rates per 100,000 at ages 5–15	
	1926–30	1935–38	1944	1945
10 Northern towns	139	244	391	331
15 Other towns	225	174	190	156

It is evident that there has been a progressive rise in the ratio of notified prevalence in the northern towns to that in the other towns, until in 1944–45 the former was double the latter. Whatever the cause of that change it can have had little to do with immunisation, and indications of any connection between the notification and death-rates in 1944–45 and the immunised proportions at the end of 1945 can only be looked for within each of these groups separately. In the table below, each of the groups has been arranged in descending order of the percentage of children aged 5–15 immunised by the end of 1945, with separation into those with percentages over and under 70.

	Notifications at all ages per 100,000*		Corrected notifications at 5–15 per 100,000		Deaths at 5–15 per 100,000 1944–45	Per cent. immunised at 5–15 at end of 1945	Deaths at 0–5 per 100,000 1944–45
	1926–30	1935–38	1944	1945			
Northern Towns							
Leeds	124	206	202	120	3·8	84	5·8
Newcastle-on-Tyne	84	199	381	564	16·8	79	21·2
Manchester	149	217	177	218	8·8	78	2·0
Sheffield	161	331	309	171	7·2	74	11·6
Salford	239	288	695	443	10·4	73	15·4
Liverpool	263	292	323	313	9·8	68	23·9
Bolton	58	127	315	279	7·2	65	16·9
Sunderland	90	193	297	272	11·6	62	11·9
Birkenhead	103	297	41	174	7·6	56	30·9
Bradford	117	286	1,171	758	30·2	55	34·5
Other Towns							
Portsmouth	330	126	19	15	2·1	95	3·3
Birmingham	230	173	235	169	3·8	89	10·4
Cardiff	237	194	177	94	3·1	84	20·1
Swansea	214	223	294	134	2·2	79	4·6
Leicester	131	177	195	131	6·7	79	4·8
Stoke	95	162	224	96	5·0	79	10·5
Southampton	199	214	106	63	4·9	78	7·6
Nottingham	291	106	98	134	3·7	77	14·3
Bristol	233	123	172	85	2·8	61	3·2
Plymouth	230	189	461	320	13·4	58	11·4
Croydon	173	110	19	52	1·9	56	3·2
London admin. county ...	283	195	115	125	4·2	55	7·5
Kingston-upon-Hull	257	281	288	217	2·4	52	12·0
Coventry	188	124	333	230	6·9	52	19·5
West Ham	282	210	119	476	4·6	?	—

* *See* page 59 of Review for 1938–39 (Text).

The averages of the various rates in the four resulting groups are as follows :—

	Northern towns with percentage		Other towns with percentage	
	Under 70	Over 70	Under 70	Over 70
Notification rates at all ages				
1926–30	126	151	227	216
1935–38	239	248	170	172
Notification rates at ages 5–15				
1944	429	353	231	168
1945	359	303	172	104
Death-rates in 1944–45				
Ages 5–15	13·3	9·4	5·3	3·9
Ages 0–5	23·6	11·2	9·5	9·4

Neither in 1926–30 nor 1935–38 were the average notification rates appreciably different in the towns where under and over 70 per cent. of children had been immunised at the end of 1945, showing that there were no other important factors influencing subsequent immunisation which might also have affected the rates of 1944–45. In 1944 and 1945 the average notification rates at 5–15 were consistently lower for the groups where the immunisation percentage exceeded 70 ; and the same is true of the diphtheria death-rates at 5–15 in 1944–45, but for death-rates at 0–5 it was only true of the northern towns. The rates of individual towns within each group, however, showed very wide variations, due no doubt to the presence or absence of epidemics increasing or diminishing the amount of exposure to infection. The consistency of the averages suggests, though it may not prove, that even in 1944 the effects of having attained a fairly high degree of immunisation of children of school age in certain large towns were beginning to depress their notification and death-rates in comparison with those of similar towns where the proportion of children immunised was not so high.

For a detailed analysis of urban and rural rates amongst immunised and non-immunised children of various ages in 1945, *see* Appendix, pages 290–292.

11. **Erysipelas.**—Deaths from erysipelas in the five years 1935–39 numbered 867, 817, 485, 342, 248, and in the six years 1940–45 they were 214, 190, 141, 124, 119, 119. The C.M.I. was 3·6 for each sex in 1934 compared with unity in 1938, and it continued to fall each year to 0·42 for males and 0·37 for females in 1942. Since the crude death-rates in the base year 1938 were nine and eight per million for the two sexes, age-corrected mortality in 1942 was higher in males than females by about one-quarter. In 1943–44, the male index decreased further to 0·30 and in 1945 to 0·21 ; but the female index, after reaching 0·34 in 1944, increased to 0·42 in 1945.

Table LII shows that the annual number of deaths did not change consistently between 1928 and 1936, but a rapid fall began in 1937, attributable to the introduction of sulphonamide therapy, which reduced the deaths to one-seventh of their former number by 1944–45. Notifications of the disease averaged about 16,000 during 1928–38, except in 1933–34 when streptococcal diseases were specially prevalent. The annual number then began to fall, reaching about 10,000 in 1945, but the decline in notified prevalence was small compared with that of the deaths. It may have resulted from the cutting short by early application of sulphonamide drugs of many illnesses in such measure as to cause the physician to omit notification. Deaths per 1,000 notifications decreased from about 50 during 1928–36 to about 11 in 1942–45, but it is probable that notification of erysipelas is far from complete.

Table LIII gives rates of notified prevalence and fatality rates in 1944 and 1945 by sex and age amongst civilians. Notification rates were rather higher amongst females than males at ages 15–65, but not at other ages, and they increased rapidly with advancing age from childhood to ages over 45. Fatality appears to be greatest in early childhood and advanced age.

Table LII.—Erysipelas : Deaths and Notifications, 1923–32 and each year 1933 to 1945.

	Number of Deaths†	Number of Notifications	Deaths per 1,000 Notifications		Number of Deaths	Number of Notifications	Deaths per 1,000 Notifications
1923–27	617*	13,907*	44	1940 ...	214	13,123	16
1928–32	810*	16,433*	49	1941 ...	190	12,232	16
1933 ...	973	17,997	54	1942 ...	141	11,598	12
1934 ...	1,192	20,643	58	1943 ...	124	11,833	10
1935 ...	867	16,926	51	1944 ...	119	(*a*)11,240	
1936 ...	817	16,487	50			(*b*)11,148	11
1937 ...	485	15,166	32	1945 ...	119	(*a*) 9,995	
1938 ...	342	16,671	21			(*b*) 9,853	12
1939 ...	248	14,141	18				

* Mean annual. † Corrected to 1940 classification.
(*a*) Original notifications. (*b*) Corrected by diagnosis revision.

Table LIII.—Erysipelas : Corrected Notification and Fatality Rates by Sex and Age, 1944 and 1945.

	Notifications per 100,000 living				Deaths per 1,000 notifications	
	1944		1945		1944–45	
	M.	F.	M.	F.	M.	F.
Civilians						
0–	8	9	6	7	22	49
5–	7	8	6	5	6	6
15–	21	24	17	20	3	3
45–	44	51	38	49	9	7
65 and over ...	51	49	45	47	31	32
All ages	**27**	**30**	**23**	**28**	**12**	**11**
Non-civilians ...	222*	26*	127*	20*	—	—

* Numbers of notifications in England and Wales.

13–22. **Tuberculosis.**—Deaths from all forms of tuberculosis in the five years 1935–39 numbered 28,489, 27,467, 27,754, 25,539, 25,623, and in the six years 1940–45 they were 28,144, 28,670, 25,549, 25,649, 24,163, 23,955. These include the deaths of non-civilians registered in England and Wales, and since those in the services in most theatres of war were for the most part brought home if found to be suffering from tuberculosis, the totals cannot be far short of the full mortality experienced by the population normally resident in the country. Many of the deaths in prison camps abroad were attributable to the special conditions there and would not be included with justification in figures designed to indicate the state of public health in this country, even if the numbers were ascertainable. The trend of the totals shows an arrest of the downward movement in 1939, a considerable increase in 1940–41, a return to the 1938–39 level

in 1942–43 and a resumption of the downward trend thereafter. Taking a broad view, there was an interruption of five years between 1938 and 1944 during which the downward movement failed to progress.

Since all efforts were directed towards eradicating tuberculous persons from the services, by initial medical examination and by subsequent discharge, and since so large a proportion of deaths occurs at the services ages, civilian death-rates can give no true indication of the trend of mortality during the war, either at all ages, whether standardized or not, or at separate age-groups between 15 and 55 for men or between 20 and 35 for women. In Table LIV, therefore, death-rates from **respiratory tuberculosis** have been calculated on the basis of the total population, including the armed forces at home and abroad, as estimated for each age-group, but civilian rates are also given for comparison.

Table LIV.—Tuberculosis of Respiratory System : Mortality by Sex and Age per million living, 1931–35 and each year 1936 to 1945.

	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75 and over
	MALES										
1931–35	85	42	64	490	963	961	1,140	1,368	1,176	723	275
1936 ...	58	15	42	356	788	818	959	1,225	1,146	672	304
1937 ...	63	22	40	365	760	803	979	1,200	1,159	690	286
1938 ...	64	17	49	348	718	739	858	1,133	1,085	643	237
1939* ...	54	15	31	368	682	723	859	1,158	1,171	678	214
	Deaths registered at home per million total population (including armed forces at home and abroad)										
1940 ...	50	23	42	371	718	792	938	1,186	1,288	725	262
1941 ...	92	32	45	430	653	769	948	1,218	1,253	726	288
1942 ...	71	24	32	364	594	674	824	1,079	1,144	707	300
1943 ...	85	20	28	337	564	667	833	1,179	1,281	736	294
1944 ...	67	24	29	287	537	637	740	1,077	1,188	750	308
1945 ...	65	19	38	266	574	632	725	1,024	1,149	781	285
	Civilian death-rates										
1940 ...	50	23	42	398	1,419	969	1,000	1,213	1,288	725	262
1941 ...	92	32	45	479	1,674	1,192	1,036	1,232	1,252	726	288
1942 ...	71	24	32	411	1,664	1,161	960	1,101	1,144	707	300
1943 ...	85	20	28	423	1,786	1,296	1,023	1,219	1,286	737	294
1944 ...	67	24	29	355	1,688	1,379	942	1,120	1,195	750	308
1945 ...	65	19	38	321	1,781	1,334	902	1,055	1,157	782	285
	FEMALES										
1931–35	74	43	143	840	1,138	911	646	475	394	306	170
1936 ...	63	26	107	670	1,039	757	528	390	350	273	167
1937 ...	61	20	105	652	1,029	798	537	388	342	263	138
1938 ...	44	28	79	605	931	728	464	340	308	233	148
1939 ...	38	20	85	601	955	708	470	353	301	237	145
	Deaths registered at home per million total population (including armed forces at home and abroad)										
1940 ...	55	24	100	725	1,060	758	517	354	319	263	137
1941 ...	84	30	101	719	1,052	773	489	345	314	242	132
1942 ...	68	18	67	620	952	676	421	306	279	220	131
1943 ...	71	20	78	570	878	682	412	307	272	211	124
1944 ...	70	24	63	523	844	670	395	273	253	210	105
1945 ...	69	27	68	512	865	657	418	288	229	218	126
	Civilian death-rates										
1941† ...	84	30	101	727	1,079	777	490	346	314	242	132
1942 ...	68	18	67	643	1,033	687	422	306	279	220	131
1943 ...	71	20	78	595	999	696	414	307	272	211	124
1944 ...	70	24	63	537	962	687	396	274	253	210	105
1945 ...	69	27	68	523	974	674	420	288	229	218	126

The rates for 1931–39 are corrected to 1940 classification.
*Total death-rates based on mid-1939 population.
† Civilians from mid-1941.

To the extent that deaths occurred abroad which were not attributable to the special conditions of service, the first series of rates will be under-estimated, but for the reasons stated above, the degree of such under-estimation is believed to be very small for men and quite negligible for women. The examination of the trends of rates since 1931 which follows is based, therefore, on the total rates in 1940–45.

Amongst children, death-rates in 1931–35, and in the peak year 1941, and average rates in 1942–43, 1944–45, are expressed below in terms of the average rates of 1938–39 taken as 100.

Age-group	Boys					Girls				
	1931–35	1938–39	1941	1942–43	1944–45	1931–35	1938–39	1941	1942–43	1944–45
0–5	144	100	156	132	112	180	100	205	170	170
5–10	263	100	200	138	134	179	100	125	79	106
10–15	160	100	113	75	84	174	100	123	88	80

At ages 0–5, boys' mortality declined between 1931 and 1939 much less than that of girls, but their war-time increase was also smaller and in 1942–43 both rates showed a slight improvement from the levels of ten years earlier. At 5–10, however, both the pre-war decline and war-time reaction were more pronounced amongst boys, and the rates for each sex in 1942–45 were about half those of 1931–35. It would appear that boys' rates just before the war were abnormally high at ages 0–5 and low at 5–10. At ages 10–15 only small increases occurred in the early part of the war, and rates of 1942–45 were about half of those in 1931–35 for each sex.

Amongst young adults the changes, expressed in the same way, were as follows :—

Age-group	Males					Females				
	1931–35	1938–39	1941	1942–43	1944–45	1931–35	1938–39	1941	1942–43	1944–45
15–	137	100	120	98	77	139	100	119	99	86
20–	138	100	93	83	79	121	100	112	97	91
25–	131	100	105	92	87	127	100	108	95	92
35–45	133	100	110	97	85	138	100	105	89	87

The initial rise in mortality was greatest at ages 15–20 for each sex, but was less than that which occurred amongst children under ten. The absence of any increase in 1941 amongst men of 20–25 may have been due to the favourable effects of life in the services in preventing fresh infections, since more than a third of the men were then in the armed forces, but few of them were abroad. The subsequent fall in rates was also more pronounced amongst men aged 15–25 than amongst women of the same ages. Women's mortality at 20–35 declined by about one-fifth during the six years preceding the war, but only by one-twelfth in the next six years, whereas the rate of fall amongst young men between 15 and 25 was only slightly retarded during the war period.

Amongst men and women over 45 the effects of the war on mortality from respiratory tuberculosis might be expected to differ, and the trends compared below show very great contrasts.

Age-group	Males					Females				
	1931–35	1938–39	1941	1942–43	1944–45	1931–35	1938–39	1941	1942–43	1944–45
45–	119	100	106	99	92	137	100	100	88	81
55–	104	100	111	107	104	129	100	103	90	79
65–	109	100	110	109	116	130	100	103	92	91
75 and over ...	122	100	128	132	131	116	100	90	87	79

At ages 45–55 the initial increase was slight for men and absent for women, and the fall in death-rates during the war period was much less than in the six years preceding. At 55–65 the male rate, which had changed little from 1931 to 1939, was still at 1931–35 level at the end of the war, but the female rate continued to fall with little interruption, as was the case at ages 45–55. At 65–75 male mortality rose to 1931–35 level and above, exceeding the 1938–39 rate by 16 per cent. in 1944–45 ; but the female rate suffered only a retardation in its decline. At ages 75 and over, men registered a still larger increase, bringing their rate well above 1931–35 level during 1942–45, whereas women's mortality showed no interruption in its downward movement.

The lasting increase which took place in respiratory tuberculosis death-rates of men over 65, with absence of any improvement of their rate at 55–65, is in sharp contrast with what occurred amongst younger men and amongst women of all age-groups, and is a feature of the epidemiology of the disease which merits investigation. It is seen very plainly when male rates at different ages are expressed as percentages of the corresponding female rates, as below :—

Period	15–	20–	25–	35–	45–	55–	65–	75 and over
1931–35	58	85	105	176	288	298	236	162
1938	58	77	102	185	333	352	276	160
1941	60	62	99	194	353	399	300	218
1943	59	64	98	202	384	471	349	237
1945	52	66	96	173	356	502	358	226

Whereas the sex-ratio has moved in favour of males at each age-group under 45, male excess has increased at each age thereafter, and the change is very pronounced at ages between 55 and 75.

Another way to demonstrate the change is to express the death-rates as percentages of the rate for the same sex at ages 25–35 :—

Sex and period	15–	20–	25–	35–	45–	55–	65–	75 and over
Males 1931–35	51	100	100	119	142	122	75	29
1938	47	97	100	116	153	147	87	32
1945	42	91	100	115	162	182	124	45
Females 1931–35	92	125	100	71	52	43	34	19
1938	83	128	100	64	47	42	32	20
1945	78	132	100	64	44	35	33	21

This makes it clear that there was in progress before the war a movement of the age of maximal death-rate of males from about 50 to an age somewhere about 54, and that this progressive change in the form of the relationship between male death-rate and age continued during the war, producing a sharper peak at a still later age about 58. The effect of this upon the distribution of numbers of deaths by age was still further enhanced by the increased proportion of men at risk to die at ages 45–75, with the result that 5,950 deaths of men occurred at ages 45–75 in 1945 out of a total at all ages of 12,077 or 49 per cent. compared with only 42 per cent. in 1935. Amongst females the tendency in the pre-war period was to heighten the peak in the relative distribution at 20–25, and this tendency also continued during the war.

If the progression of mortality with advancing age is studied for successive generations of men, different conclusions will be reached because the conditions to which the men were exposed on reaching a given age period were steadily improving. The form of the curve of death-rate upon age will be flatter for men, but the contrast between the curves for men and women will remain.

The trend of mortality since 1931 from respiratory tuberculosis at all ages, after allowing for changes in the age constitution of the population, is shown for each sex in Table LVI. For females the C.M.I. averaged 1·42 in 1931–32, unity in 1938 and 0·91 in 1944–45. Had the rate of fall during the first period of $6\frac{1}{2}$ years continued unchanged after 1938, the value of 0·91 would have been reached in less than two years, so the effect of the war was to hold up the downward progression of female mortality in general by four or five years. For males the C.M.I., based as it is on civilian mortality, was greatly affected by medical selection, and the male indices from 1940–45 in Table LVI do not measure the real trend of the disease at all ages. It is apparent from Table LIV that civilian rates of males aged 20–25 were twice the total rates in 1940 and three times those rates from 1943 onwards, whilst at 25–35 the civilian rates also became twice the total rates by 1943. The consistent relation of these increases with the proportions of men called to the services has been discussed on pages 66–69, and it will suffice to illustrate the combined effects of initial medical selection and discharge by comparing the deaths of non-civilian males in 1945 (Table 21A) from respiratory tuberculosis at ages 20–35 with those of civilian males of the same ages. The non-civilian deaths numbered 198 and the civilian deaths 2,785, a ratio of 1 to 14, whereas the populations were in the proportion of 1·5 to 1, the rates of mortality being therefore as 1 to 21 at those ages.

An alternative index, not influenced by selection, is the equivalent average death-rate at ages under 65, obtained by summing the "total" rates in Table LIV at quinquennial age-groups up to 25, adding twice the sum of the rates at decennial groups from 25 to 65 and dividing by 13. The resulting comparison for each sex is then :—

	Males (under 65)			Females (under 65)		
	1931–35	1938	1945	1931–35	1938	1945
E.A.D.R. (per million) ...	841	679	617	545	413	363
Per cent. of 1938	124	100	91	132	100	88

This shows that male mortality at 0–65 improved by nine per cent. compared with 1938, whereas that of females improved by 12 per cent.

Table LV shows the trend of death-rates from **tuberculosis of the meninges and central nervous system** at six ages from 1931–35 onwards, based on total populations inclusive of armed forces during the war years, as in the sections so specified of the previous table. The rates between ages 25 and 55 are condensed into a single equivalent average rate, being the mean of the three rates at 25–35, 35–45 and 45–55. As in the case of the respiratory form, mortality at first increased to a maximum in 1941 and declined at most ages thereafter, and the comparison can best be made in the same way as before, with the average of the rates in 1938 and 1939 taken as 100.

Age-group	Males					Females				
	1931–35	1938–39	1941	1942–43	1944–45	1931–35	1938–39	1941	1942–43	1944–45
0–	143	100	138	105	93	129	100	134	103	87
5–	132	100	146	117	109	141	100	156	117	114
10–	121	100	123	112	117	116	100	127	105	117
15–	122	100	137	130	122	110	100	161	156	136
25–55 (E.A.D.R.)	104	100	112	104	92	118	100	129	135	118

Table LV.—Tuberculosis, non-Respiratory : Mortality by Sex and Age per million living, 1931–35 and each year 1936 to 1945.

	Meninges and central nervous system						Other non-respiratory tuberculosis					
	0–	5–	10–	15–	25–55 E.A.D.R.	55 and over	0–	5–	10–	15–	25–55 E.A.D.R.	55 and over
	Males						Males					
1931–35	414	123	66	49	13	3	219	71	61	105	71	75
1936 ...	313	129	60	42	11	3	152	52	42	92	66	61
1937 ...	319	91	66	42	13	2	168	55	43	79	71	60
1938 ...	297	96	57	42	13	3	156	45	39	87	61	52
1939 ...	284	90	52	38	12	4	125	53	34	89	63	60
1940 ...	300	96	55	48	13	3	146	41	35	89	65	62
1941 ...	402	136	67	55	14	4	188	46	43	91	61	59
1942 ...	321	107	67	53	14	2	134	50	46	84	65	59
1943 ...	288	110	55	51	12	5	134	42	36	74	56	54
1944 ...	273	102	62	51	12	2	109	34	34	67	51	59
1945 ...	266	100	65	47	11	2	107	38	35	67	53	49
	Females						Females					
1931–35	356	125	73	48	10	2	160	59	50	84	58	62
1936 ...	283	98	58	47	9	2	129	37	38	66	51	45
1937 ...	291	89	61	50	9	1	132	46	43	72	48	52
1938 ...	300	100	60	40	8	2	112	40	36	73	45	42
1939 ...	252	77	66	47	9	2	102	38	32	69	41	40
1940 ...	278	96	71	61	9	2	118	34	26	80	50	40
1941 ...	370	138	80	70	11	2	141	50	34	83	43	48
1942 ...	290	101	69	64	12	1	92	30	44	79	49	42
1943 ...	277	106	63	72	11	3	101	32	34	74	42	46
1944 ...	234	95	78	58	10	4	86	33	26	67	42	44
1945 ...	246	107	70	60	10	2	84	29	41	55	35	42

The rates for 1931–39 are corrected to the 1940 Classification.
Rates from 1939 onwards are deaths registered at home per million total population (including armed forces at home and abroad).

Amongst children under five mortality rose early in the war and reached the 1931–35 level, but it declined again by 1944–45 to about ten per cent. below 1938–39 figures. At 5–10 the rates were raised by about 50 per cent. in 1941, and failed to return to the immediate pre-war levels, although rates in 1942–45 were below those of ten years earlier. At 10–15 the initial increase was about one-quarter ; and in 1944–45 rates were 17 per cent. above the 1938–39 level and about the same as in 1931–35. At 15–25 females were affected more than males and at the end of the war their mortality exceeded that of 1931–35 by one-quarter, whereas the male rate was 22 per cent. above 1938–39 and equal to the 1931–35 figure. At 25–55 males registered some improvement by the end of the war, but the female rate was still at the level of 1931–35.

The C.M.I. for females of all ages (Table LVI) averaged 1·031 in 1944–45 compared with 0·985 in 1937–39 and 1·336 in 1931–32, so it is evident that the downward trend was reversed. For males the corresponding figure was 1·030 compared with 0·988 in 1937–39 and 1·410 in 1931–32, and this also shows a complete cessation of the rapid decline which was in progress during 1931–39.

For **other forms of non-respiratory tuberculosis** the progression of mortality by sex and age, derived from Table LV, was as follows :—

Age-group	Males					Females				
	1931–35	1938–39	1941	1942–43	1944–45	1931–35	1938–39	1941	1942–43	1944–45
0–	156	100	134	95	77	150	100	132	90	79
5–	145	100	94	94	73	151	100	128	79	79
10–	167	100	118	112	95	147	100	100	115	99
15–	119	100	103	90	76	118	100	117	108	86
25–55 (E.A.D.R.)	115	100	98	98	84	135	100	100	106	90
55 and over ...	134	100	105	101	96	151	100	117	107	105

Amongst children of each age under 15, death-rates fell by about one-third of their values in the short period of time from 1931–35 to 1938–39. At ages under five the rates rose sharply at the beginning of the war, but the downward trend was then resumed, resulting in a reduction of mortality by more than one-fifth between 1938–39 and 1944–45. At 5–10 girls showed a similar increase in 1941, but not boys, and by 1944–45 the improvement from 1938–39 rates was again more than one-fifth. At 10–15 and ages over 55 the rates showed no appreciable improvement for either sex during the war period as a whole. Amongst men aged 15–55 the downward trend of mortality was not much affected, but amongst women of those ages it was arrested until 1944–45.

Table LVI distinguishes tuberculosis of the intestines and peritoneum and of the vertebræ and bones and shows that the C.M.I. at all ages declined from about 1·8 for the former and 1·6 for the latter in 1931 to unity in 1938, and then increased again for each type by 1942. The fall was then resumed, bringing the female indices well below 1938 levels by 1945. For other forms of tuberculosis no consistent change in the indices occurred between 1935 and 1945.

Table LVII summarizes the movements of death-rates at each age-group from *all forms* of tuberculosis in five intervals of time between 1922–24 and 1943–45. In this table civilian rates have been used, and the contrasts between the male and female indices of change during the last two intervals are much accentuated on that account between ages 20 and 45 and at all ages combined. In the successive intervals of five years between the wars the C.M.I. for males fell by 11, 15 and 18 per cent., and for females by 13, 16 and 22 per cent., indicating an acceleration in the rate of decline in mortality. This acceleration occurred for each sex at ages 0–10 and 45–55, for males aged 10–20, and for females aged 15–35. On the other hand a retardation of the rate of decline occurred for males aged 55–75 and females aged 65–75.

Table LVI.—Tuberculosis of Various Sites: Comparative Mortality Indices,* 1931 to 1945.

	All forms		Respiratory		Meninges and C.N.S.		Intestine and peritoneum		Vertebræ and bones		Other forms	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1931 ...	1·393	1·469	1·384	1·469	1·440	1·392	1·754	1·912	1·532	1·719	1·236	1·233
1932 ...	1·298	1·377	1·274	1·364	1·381	1·280	1·779	1·649	1·453	1·877	1·281	1·339
1933 ...	1·292	1·342	1·291	1·353	1·207	1·178	1·503	1·723	1·464	1·522	1·188	1·100
1934 ...	1·199	1·244	1·191	1·235	1·218	1·220	1·344	1·447	1·414	1·564	1·074	1·120
1935 ...	1·125	1·163	1·125	1·175	1·103	1·006	1·229	1·314	1·289	1·387	0·971	0·983
1936 ...	1·088	1·104	1·089	1·112	1·056	0·998	1·080	1·225	1·207	1·330	1·021	0·948
1937 ...	1·083	1·116	1·083	1·120	1·043	1·022	1·190	1·093	1·116	1·235	1·045	1·120
1938 ...	1·000	1·000	1·000	1·000	1·000	1·000	1·000	1·000	1·000	1·000	1·000	1·000
1939 ...	1·013	0·985	1·024	0·996	0·921	0·934	0·957	0·915	1·054	1·140	0·985	0·926
1940 ...	1·181	1·084	1·223	1·093	1·056	1·065	1·090	1·045	1·100	0·987	1·164	1·049
1941 ...	1·280	1·114	1·362	1·092	1·415	1·368	1·274	1·004	1·033	1·105	1·321	1·123
1942 ...	1·188	0·991	1·267	0·971	1·202	1·132	1·272	1·082	1·296	1·058	1·130	0·985
1943 ...	1·263	0·975	1·328	0·955	1·132	1·142	1·024	0·963	1·217	0·991	1·136	0·978
1944 ...	1·205	0·922	1·269	0·908	1·046	1·021	0·970	0·808	1·052	0·941	1·112	0·998
1945 ...	1·166	0·918	1·234	0·913	1·013	1·041	0·925	0·711	1·008	0·805	1·080	0·918

* Non-civilian males are excluded from the experiences on and after 3rd September, 1939, and non-civilian females on and after 1st June, 1941.

Table LVII.—Tuberculosis (all forms) : Mortality in 1927-29, 1932–34, 1937–39 per cent. of five years previously and Civilian Mortality in 1940–42, 1943–45 per cent. of 1937–39.

Ages	1927–29 Per cent. of 1922–24		1932–34 Per cent. of 1927–29		1937–39 Per cent. of 1932–34		1940–42 Per cent. of 1937–39*		1943–45 Per cent. of 1937–39*	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
All ages C.M.I. ...	**89**	**87**	**85**	**84**	**82**	**78**	**118**	**103**	**117**	**91**
0–	82	80	76	78	71	74	111	112	91	93
5–	86	80	73	73	70	67	115	114	101	103
10–	79	76	74	66	72	72	105	104	92	92
15–	93	92	84	86	75	75	119	116	103	94
20–	79	94	92	91	74	83	213	110	237	102
25–	85	92	85	87	78	80	143	100	173	92
35–	90	83	80	85	80	75	110	99	106	85
45–	99	84	87	80	85	77	102	95	97	82
55–	91	84	94	80	98	83	108	96	106	81
65–	90	79	88	84	95	84	107	100	112	91
75 and over ...	101	83	88	82	97	97	115	92	118	89

* Corrected for change in classification from 1940.

Comparing rates of 1940–42 with those of 1937–39, the C.M.I. of females increased by three per cent. The age-group showing greatest increase was 15–20, followed by ages under ten and 20–25, all with ten per cent. or more, and 10–15 with four per cent. At 25–45 and 65–75 there was no appreciable change, and at 45–65 and over 75 a slight fall was registered. For civilian males the C.M.I. was increased by 18 per cent., and all age-groups showed increases, greatest of course at 20–35 owing to selection. For boys the increases were similar to those of girls, and at 55–75 it amounted to about eight per cent.

Comparing rates of 1943–45 with those of 1937–39, the C.M.I. of females improved by nine per cent., and each age-group except 5–10 and 20–25 shared in the fall. At 45–65 this amounted to about 18 per cent., at 35–45 it was 15 per cent., at 65 and over about ten per cent. and at other ages between six and eight per cent. For civilian males the C.M.I. was still 17 per cent. above pre-war level and the only age-groups showing a fall were 0–5, 10–15, and 45–55. The upward movement of mortality continued at ages over 65.

Regional Distribution of Respiratory Tuberculosis.—Table LVIII gives the proportions of deaths from respiratory tuberculosis per 1,000 from all non-violent causes at four ages in each region and class of area during each year 1940–45. Actual death-rates cannot be given since population estimates at separate age-groups in the regions could not be obtained with accuracy for years after 1941. For a given region, however, the progression of the proportionate mortality figure for a particular age-group gives a fair indication of the trend of mortality from respiratory tuberculosis in that region during the war if some attention is also paid to the changes which took place in the national death-rates from all non-violent causes, which changes were similar in all regions. These are expressed below as percentages of the mean annual rate in 1940–45, which is also given.

Sex and age	Rate per 1,000 in 1940–45	Rate per cent. of that in 1940–45					
		1940	1941	1942	1943	1944	1945
P 0–5	13·4	109	115	99	100	93	87
5–15	0·94	122	119	99	95	85	78
M 15–45	3·25	98	103	98	105	101	95
45–65	15·2	116	103	95	98	95	94
F 15–45	2·38	110	106	100	102	93	89
45–65	9·7	118	105	97	98	92	92

When the proportionate mortality figures for regions are compared one with another in the same year, attention should be paid to the table on page 25

which shows the regional variation in the death-rate from all non-violent causes in the period 1940–41. For example, at ages 0–5 the county borough rate was just 50 per cent. in excess of the rural district rate, and since proportionate mortality from respiratory tuberculosis is shown by Table LVIII to have been twice as great in county boroughs as in rural districts in several years, this means that the death-rate from respiratory tuberculosis was about three times as high in the former as in the latter.

The proportionate figures in themselves show to what extent the conditions experienced during the war affected mortality from respiratory tuberculosis in comparison with mortality from all diseases combined in each region, and from some points of view this is more informative, since there were no large scale epidemics to invalidate such comparison. The severe winters of 1940 and 1941 and a moderate influenza epidemic in 1943 increased mortality from respiratory diseases, but they also affected that from respiratory tuberculosis in similar degree. It is not possible here to make a detailed study of Table LVIII, and only the salient points will be mentioned.

The figures reveal great regional contrasts amongst children, curious features being the high proportionate mortalities in Greater London at ages 0–5 and 5–15 compared with the county boroughs during 1940–43, in Midland I at 0–5 compared with Midland II in 1941–45, in North I at 0–5 during 1940–41 and in Wales at 5–15 in 1943; and the low proportions in Wales at 0–5 during 1940–44.

Amongst **females aged 15–45** the regional comparison has been elucidated below by expressing the average proportions in 1940–41 in terms of the national figure and multiplying by the relative death-rates from all non-violent causes as tabulated on page 25, giving the death-rates from respiratory tuberculosis per cent. of the national rate. Years 1942–43 and 1944–45 have then been dealt with in the same way as regards the relative proportionate mortalities.

Region and class of area	Average proportion of respiratory tuberculosis in terms of national figure—Females 15–45			Non-violent death-rate per cent. of national	Respiratory tuberculosis death-rate per cent. of national
	1940–41	1942–43	1944–45	1940–41	1940–41
England and Wales	1·00	1·00	1·00	100	100
Greater London	1·11	1·09	1·09	96	107
Remainder of South East ...	0·92	0·89	0·95	81	75
North I	1·13	1·14	1·16	126	142
North II	1·11	1·07	1·10	111	123
North III	0·83	0·88	0·82	100	83
North IV	0·96	0·95	0·95	113	108
Midland I	1·00	0·99	1·03	98	98
Midland II	0·98	0·94	0·98	96	94
East	0·89	1·00	0·83	81	72
South West	0·88	0·93	0·96	86	76
Wales I	1·15	1·20	1·14	133	153
Wales II	1·05	1·03	0·91	111	117
County boroughs*	1·10	1·10	1·10	111	122
Other urban districts*	0·92	0·94	0·93	97	89
Rural districts*	0·82	0·80	0·84	89	73

* Excluding Greater London.

The ranking of the regions according to proportionate mortality was much the same in the three periods, Wales I, North I, Greater London and North II giving highest indices, and the Southern regions, East and North III the lowest. Ranking according to actual death-rates in 1940–41 produced the sequence Wales I, North I, North II, Wales II, North IV, Greater London, Midland I and II, North III, South West, Rest of South East, East, the order being little changed but the range of variation considerably increased. The most surprising figure is the low rate in North III (West Riding of Yorkshire).

The excess of urban over rural proportionate mortality was almost constant through the war, showing that the initial rise in 1940–41 was due to factors equally affecting all classes of area and not specially connected with town

dwelling. The excess of mortality based on population at risk in the county boroughs compared with rural districts and expressed in terms of the national rate taken as 100 was 49 in 1940–41. Since 281 per 1,000 deaths from all non-violent causes in 1940–41 were due to respiratory tuberculosis, a national mortality figure of 100 for that cause implied a figure of 356 for non-violent causes, and the difference of 49 was 14 per cent. of this. Consequently the excess of respiratory tuberculosis in large towns over rural districts contributed 14 towards the total difference of 22 seen in the fourth column of the table. In other words two-thirds of the excess of town over rural mortality from all non-violent causes in women aged 15–45 was due to respiratory tuberculosis.

Table LVIII.—Tuberculosis of Respiratory System: Proportionate Mortality at certain Ages per 1,000 Deaths from all non-Violent Causes in Regions and different classes of Area (Civilians), 1940 to 1945.

	0–	5–	15–45		45–65		0–	5–	15–45		45–65	
	P	P	M	F	M	F	P	P	M	F	M	F
	1940						1941					
England and Wales ...	**3·6**	**42·1**	**286·3**	**276·4**	**70·3**	**29·5**	**5·7**	**47·0**	**305·6**	**286·3**	**79·6**	**32·6**
Greater London	6·8	63·2	328·8	303·6	82·5	35·3	11·7	64·4	346·6	323·1	98·3	37·9
Remainder of South East	2·7	38·8	289·0	246·8	69·4	32·3	6·0	41·1	311·2	272·1	75·5	34·2
North I	3·7	64·5	303·5	315·6	68·7	28·9	5·5	68·3	327·3	319·4	77·6	35·1
North II	2·4	38·5	303·1	300·2	73·2	39·2	3·6	61·4	300·1	325·1	69·7	33·2
North III	3·8	38·2	253·0	234·4	65·7	24·2	3·5	35·5	264·1	235·3	69·8	27·4
North IV	4·4	42·5	266·5	268·5	66·9	21·2	4·8	35·0	269·7	269·2	80·9	27·0
Midland I	2·6	32·7	279·8	278·4	79·4	34·4	7·6	50·9	317·4	283·0	80·9	36·2
Midland II	3·7	41·0	271·9	255·7	58·8	29·7	4·3	42·2	321·1	298·7	77·6	35·1
East	2·5	43·2	275·2	260·3	66·0	31·0	3·6	42·8	289·1	240·0	65·1	30·6
South West	—	17·6	265·1	252·9	57·5	29·0	5·5	34·7	296·1	244·2	69·1	31·7
Wales I	2·4	37·0	286·0	321·5	56·6	27·3	2·6	57·8	289·3	324·1	68·1	28·4
Wales II	—	39·5	245·7	302·9	61·3	23·3	1·0	40·5	285·7	286·8	64·4	33·6
County boroughs* ...	4·0	46·0	313·9	302·2	79·5	31·5	6·3	50·4	319·9	314·9	90·3	36·3
Other urban districts* ...	2·6	32·6	250·2	255·9	58·0	25·1	4·3	43·1	283·9	262·8	65·5	29·9
Rural districts*	1·8	38·4	236·7	228·3	55·9	27·8	3·4	37·9	265·7	233·0	60·0	25·6
	1942						1943					
England and Wales ...	**5·2**	**38·6**	**300·4**	**271·9**	**77·7**	**31·2**	**5·8**	**40·7**	**305·3**	**258·9**	**83·7**	**30·5**
Greater London	7·0	65·5	340·0	296·0	92·5	37·1	10·6	61·9	349·4	280·7	94·3	37·7
Remainder of South East	7·1	35·1	306·4	237·9	77·0	29·1	6·7	32·6	307·3	236·3	78·5	29·7
North I	4·1	41·1	294·5	300·6	69·8	32·0	4·4	38·8	314·9	307·0	83·6	28·3
North II	6·9	39·8	324·9	299·0	73·1	26·9	3·4	52·9	268·6	270·1	83·5	30·4
North III	4·0	29·9	254·0	242·6	70·9	23·0	2·8	26·8	256·1	225·9	82·0	21·6
North IV	4·8	35·2	280·4	270·9	74·2	27·2	5·0	36·3	289·9	234·4	78·8	26·5
Midland I	7·3	33·0	302·5	266·0	84·6	38·4	7·7	23·8	321·9	260·8	96·7	36·6
Midland II	1·7	37·5	289·2	252·5	76·1	26·1	3·9	35·7	282·0	249·1	78·3	32·2
East	1·9	36·9	250·3	257·1	62·2	30·3	3·9	28·0	282·7	272·0	73·3	29·4
South West	4·7	15·3	300·6	259·2	69·0	29·4	2·5	47·8	265·5	235·9	71·0	28·5
Wales I	3·8	48·3	313·3	316·3	69·7	38·6	4·7	75·0	315·5	321·7	76·0	28·9
Wales II	—	32·8	322·1	291·5	70·5	35·9	1·5	75·3	324·9	253·7	71·6	31·1
County boroughs* ...	6·1	42·0	322·6	303·2	88·2	33·2	6·1	42·8	319·5	282·0	95·6	33·8
Other urban districts* ...	4·6	33·9	273·6	251·3	67·0	28·4	4·0	34·8	284·3	245·9	72·8	25·8
Rural districts*	3·1	22·0	255·1	218·9	57·3	26·8	4·2	30·6	259·4	207·8	63·5	25·6
	1944						1945					
England and Wales ...	**5·5**	**43·5**	**305·8**	**273·6**	**79·9**	**29·5**	**5·8**	**51·9**	**312·4**	**286·8**	**77·1**	**29·2**
Greater London	6·1	44·4	345·5	293·7	96·6	37·4	7·2	62·3	335·5	319·5	91·6	32·7
Remainder of South East	7·6	50·8	312·4	259·9	77·1	29·5	6·7	46·8	327·5	274·9	72·0	30·4
North I	5·5	46·8	306·5	324·9	77·8	28·4	3·4	52·5	353·0	325·7	71·0	27·2
North II	2·2	50·0	277·5	285·3	87·7	25·8	4·3	60·8	319·2	331·4	69·7	34·3
North III	3·6	38·4	265·2	218·2	66·1	17·8	4·7	35·2	257·6	239·8	66·6	22·1
North IV	5·7	36·8	274·7	267·7	79·6	22·9	4·3	53·7	286·2	263·5	74·1	24·9
Midland I	8·5	54·4	337·2	277·4	83·8	39·6	8·3	66·5	344·5	299·3	91·2	35·1
Midland II	3·1	36·4	286·8	260·1	78·7	31·8	5·6	52·1	269·9	291·4	74·3	25·8
East	3·1	44·9	272·1	241·4	65·0	25·4	6·7	31·6	259·0	225·3	65·1	24·3
South West	2·3	23·5	310·5	262·1	64·9	24·2	2·3	32·6	298·9	274·3	68·6	28·5
Wales I	4·2	53·2	283·9	321·5	66·3	34·3	6·6	64·2	329·3	315·4	62·6	37·7
Wales II	2·9	11·0	345·5	267·2	79·5	31·0	7·5	13·5	313·5	244·3	89·7	29·4
County boroughs* ...	6·3	57·6	319·0	298·3	89·1	32·6	6·4	62·0	338·3	315·4	84·8	32·7
Other urban districts* ...	5·5	37·0	288·4	257·5	66·8	25·6	5·3	44·4	295·7	262·4	68·0	25·6
Rural districts*	3·2	26·8	264·4	232·0	64·2	23·0	4·3	39·2	257·4	237·9	59·9	25·9

* Excluding Greater London.

Similarly, the excess of respiratory tuberculosis death-rate in North I compared with the South East (excluding Greater London) was 67 per cent. of the national rate, and contributed 67/3·56 or 19 to the total difference of 45 for non-violent causes. Comparing Wales I with the South West it contributed 77/3·56 or 22 to the total difference of 47; and comparing North II with North III in the same way, it accounted for the whole excess. It appears that a very large part of the regional variation in the total non-violent mortality of women aged 15–45 was accounted for by differences in the respiratory tuberculosis death-rate.

Amongst **males aged 45–65** a similar regional comparison is shown in the following table :—

Region and class of area	Average proportion of respiratory tuberculosis in terms of national figure—Males 45–65			Non-violent death-rate per cent. of national	Respiratory tuberculosis death-rate per cent. of national
	1940–41	1942–43	1944–45	1940–41	1940–41
England and Wales	1·00	1·00	1·00	100	100
Greater London	1·21	1·16	1·20	103	125
Rest of South East	0·97	0·96	0·95	85	82
North I	0·98	0·95	0·95	103	101
North II	0·95	0·97	1·00	103	98
North III	0·90	0·95	0·85	107	96
North IV	0·99	0·95	0·98	119	118
Midland I	1·07	1·12	1·11	98	105
Midland II	0·91	0·96	0·97	91	83
East	0·87	0·84	0·83	79	69
South West	0·84	0·87	0·85	87	73
Wales I	0·83	0·90	0·82	106	88
Wales II	0·84	0·88	1·08	99	83
County boroughs*	1·13	1·14	1·11	117	132
Other urban districts*	0·82	0·87	0·86	95	78
Rural districts*	0·77	0·75	0·79	78	60

* Excluding Greater London.

Proportionate mortality from respiratory tuberculosis was excessive during 1940–43 in two regions, Greater London and Midland I, and low in the South West, East and Wales, but by 1944–45 it had increased in Wales II. This contrasts with the distribution amongst females aged 15–45 by the absence of excess in North I, North II and Wales I. The peculiar trend of the national respiratory tuberculosis death-rate of males over 55 has been commented on and the reason for it is obscure. The very unequal distribution of the actual death-rate at 45–65 shown in the last column is of particular interest on this account. Greater London and North IV were remarkable in showing 25 and 18 per cent. excess respectively over the national rate, for no other region except Midland I (with five per cent.) showed any significant excess. These regions together contained 46 per cent. of the population. The rest of the North had average rates, and the other regions had low rates. County borough mortality was more than double that in the rural districts and above that of Greater London. Since North IV is the most urbanised region after Greater London, the whole pattern of the death-rates for this sex-age group suggests that the unsatisfactory mortality has been in the main due to factors connected with town dwelling.

Table LIX gives the proportionate mortality figures for respiratory tuberculosis per 1,000 deaths from all non-violent causes in the 25 largest towns during two periods 1940–42 and 1943–45. For children under five the figures show extreme variation, and large increases occurred in certain towns such as

Portsmouth, Southampton, Hull, Stoke-on-Trent and West Ham. The low proportions throughout in Manchester, Bradford, Sheffield, Bolton, Coventry and Sunderland are noteworthy. At ages 5–15, Portsmouth and Cardiff registered high proportions throughout, with London also high in the first period and Nottingham in the second; Plymouth, Leicester, Coventry and Swansea had notably low figures, with Southampton also low in 1940–42, and Croydon and Bradford in 1943–45. At ages 15–45 for females, the towns with proportions exceeding one-third in both periods were Birkenhead, Cardiff, Liverpool, Newcastle, Nottingham, Plymouth and Southampton, of which six were seaports; and those with proportions below one-quarter in both periods were Bolton, Bradford and Croydon. At ages 45–65 for males, Birmingham, Coventry, London and Manchester registered proportions exceeding one-tenth in 1940–42, and to these were added Leicester, Liverpool, Salford, Southampton and West Ham in 1943–45. Most of these towns suffered considerable damage, and the ranking of the towns with highest proportions in 1943–45—Southampton, Coventry, Liverpool, Salford, West Ham, London, Leicester, Birmingham, Manchester—suggests that important causative factors for the high tuberculosis mortality of men over 55 were the conditions imposed upon them in those towns which suffered from and anticipated heavy aerial attacks, such as nightly fire-watching, work in damaged and badly ventilated buildings, dusty atmosphere, long continued stress and overwork.

Table LIX.—Tuberculosis of Respiratory System: Proportionate Mortality at certain Ages per 1,000 Deaths from all non-Violent Causes in County Boroughs (Civilians), 1940–42 and 1943–45.

	1940–42						1943–45					
	0–	5–	15–45		45–65		0–	5–	15–45		45–65	
	P.	P.	M.	F.	M.	F.	P.	P.	M.	F.	M.	F.
Birkenhead	7·0	32·5	371·5	334·4	85·9	35·8	9·3	47·6	334·7	346·6	99·9	38·4
Birmingham	9·6	50·0	343·3	305·6	103·6	44·7	14·4	66·9	360·6	296·1	103·8	40·2
Bolton	1·7	63·2	235·5	232·4	63·9	21·2	2·0	32·8	260·0	175·3	60·4	24·8
Bradford	1·2	55·6	236·2	220·7	62·1	16·9	1·2	24·4	210·5	212·7	64·1	17·2
Bristol	8·5	37·5	311·7	316·2	71·6	38·6	4·2	58·8	369·1	325·5	88·8	38·6
Cardiff	10·5	82·7	345·7	361·5	88·4	33·8	8·3	117·6	326·4	336·2	88·1	41·1
Coventry	2·7	37·5	347·2	251·0	104·9	39·1	3·2	—	409·0	296·3	117·8	31·8
Croydon	—	63·5	327·1	249·2	72·8	31·3	6·1	14·9	353·7	238·4	68·9	29·7
Kingston-upon-Hull ...	1·8	40·0	343·2	356·3	85·2	46·8	6·6	66·1	333·3	330·2	91·5	42·8
Leeds	8·2	42·9	322·4	301·7	93·9	34·8	4·3	45·7	290·5	248·4	92·6	30·6
Leicester	7·6	30·3	395·7	328·0	90·6	49·5	7·8	26·7	356·8	288·9	105·5	44·6
Liverpool	7·4	45·2	324·4	359·1	94·9	28·9	9·2	69·9	358·7	338·7	110·2	32·2
London admin. county ...	13·1	85·7	361·2	323·6	100·7	39·9	7·8	59·4	379·2	318·4	107·3	37·5
Manchester	4·1	51·5	335·0	345·0	101·4	40·8	4·9	61·0	290·4	325·7	100·5	41·0
Newcastle-upon-Tyne ...	9·4	64·7	344·5	352·5	89·7	36·7	6·7	64·9	387·7	366·9	93·2	40·6
Nottingham	4·7	53·7	378·0	351·9	96·4	38·8	5·7	83·3	328·7	348·8	97·3	38·3
Plymouth	3·0	24·1	387·6	388·3	85·1	33·5	5·3	15·2	428·1	363·6	82·5	39·6
Portsmouth	4·1	130·4	353·1	257·6	78·9	29·0	10·6	138·9	414·2	340·1	95·0	41·1
Salford	9·3	52·6	317·4	353·1	96·5	30·0	8·6	46·2	341·4	324·5	109·3	37·9
Sheffield	3·6	37·2	283·5	288·5	78·0	25·2	4·1	51·5	292·1	267·0	81·2	21·4
Southampton	2·4	16·7	415·4	363·0	88·3	33·0	12·7	64·5	337·6	343·8	118·3	48·2
Stoke-on-Trent	2·9	64·3	265·7	262·3	95·3	63·6	11·2	63·5	246·3	254·6	96·1	50·3
Sunderland	3·9	56·7	304·6	350·6	53·4	37·6	2·5	48·8	324·3	293·8	62·2	33·1
Swansea	4·9	37·0	308·7	310·9	81·5	36·8	7·9	21·7	341·9	322·1	69·6	34·0
West Ham	7·9	66·7	335·1	349·9	90·2	30·0	15·9	48·4	315·0	319·9	107·8	44·5
Other county boroughs ...	4·3	42·4	305·1	285·5	79·1	29·6	4·5	45·3	312·7	284·6	82·2	29·2

Regional Distribution of non-Respiratory Tuberculosis.—Table LX gives the proportionate mortality on the same basis as Table LVIII from these forms of tuberculosis at three age-groups in each year. Amongst children under five the regional variation was very much less than for respiratory tuberculosis and was entirely different. North II registered the highest proportion in each year except 1942 and 1944, when the South East and East respectively ranked first. The ranking of the regions according to the average of the proportions in the six years was :—North II, South East (remainder), South West, East, North III, Midland I, Midland II, North I, North IV, Wales I, Wales II, Greater London. The more urbanised regions tended to have lower proportions, and this is shown also by comparison between the averages for different classes of area, which were as follows :—Greater London 26·2, county boroughs 31·1, other urban districts 30·9, rural districts 34·3. This does not mean, however, that the death-rates based on the numbers living were related in this way, since, as shown by the table on page 25 the mortality rate from all non-violent causes in 1940–41 for rural districts was only two-thirds of that in county boroughs. In 1940–41 the death-rates from non-respiratory tuberculosis per 1,000 living at ages 0–5 were :—Greater London 0·42, county boroughs 0·58, other urban districts 0·47, rural districts 0·42 ; and in 1945 the estimated rates were 0·24, 0·42, 0·34, 0·34 respectively. There was, therefore, an excess of death-rate in the large towns, though not in Greater London, the excess being not quite so pronounced for non-respiratory tuberculosis as for all other non-violent causes.

At ages 5–15 the ranking of the regions according to the average of the proportionate mortality figures in the six years was :—North I, North II, Greater London, Midland II, South East (remainder), Wales I, South West, East, North III, Midland I, North IV, Wales II. This was very different from the order of ranking at ages 0–5, and great changes occurred in the figures in the course of the war in some regions. The evacuation movements at this age, and special arrangements for tuberculous children may have accentuated the regional differences. The very high proportionate figures reached in 1945 in North I and II, and in the South West also, are noteworthy. Actual death-rates per 1,000 living in 1940–41 in the different classes of area compared as follows : —Greater London 0·15, county boroughs 0·18, other urban districts 0·12, rural districts 0·08 ; and in 1945 the estimated rates were 0·08, 0·15, 0·13, 0·09 respectively.

Table LXI gives the proportionate figures at three age-groups for each sex in 1940–42 and 1943–45 for each of the 25 largest towns, for comparison with Table LIX for respiratory tuberculosis.

Table LX.—Tuberculosis, non-Respiratory: Proportionate Mortality at certain Ages per 1,000 Deaths from all non-Violent Causes in Regions and different classes of Area (Civilians), 1940 to 1945.

	0–	5–	15–45		0–	5–	15–45		0–	5–	15–45	
	P.	P.	M.	F.	P.	P.	M.	F.	P.	P.	M.	F.
	1940				1941				1942			
England and Wales ...	**28·8**	**98·6**	**35·8**	**33·9**	**35·9**	**131·3**	**38·8**	**36·2**	**31·6**	**138·1**	**41·4**	**38·6**
Greater London	26·8	128·9	32·0	33·2	39·0	175·7	34·1	36·1	24·6	135·8	36·4	36·8
Remainder of South East	32·9	93·4	33·5	30·3	45·0	147·9	41·4	37·0	40·2	158·9	43·1	29·8
North I	24·9	104·8	52·2	38·8	34·6	136·5	51·1	44·9	27·7	179·7	63·8	51·9
North II	34·7	98·3	50·7	42·1	49·7	127·2	43·1	41·6	36·8	179·1	57·1	49·6
North III	28·2	107·6	32·1	27·8	31·6	122·3	24·2	36·2	37·9	119·8	41·2	33·6
North IV	25·7	98·8	31·9	31·2	35·0	119·5	37·6	35·8	31·9	105·7	35·8	38·8
Midland I	30·2	81·7	33·2	32·7	34·1	123·8	37·4	33·4	31·8	141·7	34·3	31·6
Midland II	33·7	90·7	43·0	37·4	33·3	141·4	42·6	28·9	30·5	165·6	40·9	51·3
East	26·0	64·7	37·5	33·9	36·7	128·4	39·1	34·3	26·8	129·0	32·0	41·1
South West	26·1	96·9	39·0	43·2	33·8	106·7	41·9	37·5	37·9	137·4	51·7	50·0
Wales I	31·7	107·0	35·1	38·9	25·7	120·0	47·3	38·1	25·7	117·2	45·3	39·1
Wales II	30·5	79·1	49·1	43·6	32·4	81·1	60·6	29·1	24·4	123·0	59·7	35·9
County boroughs* ...	28·5	101·4	35·1	34·2	34·7	141·4	36·8	37·3	32·3	142·6	40·8	37·3
Other urban districts* ...	28·6	94·2	37·9	34·4	36·0	117·0	39·9	36·3	32·1	132·9	42·6	38·1
Rural districts*	31·5	82·4	38·5	32·9	36·2	112·9	47·1	33·7	35·7	140·8	46·4	44·2
	1943				1944				1945			
England and Wales ...	**30·0**	**133·4**	**38·1**	**36·2**	**28·2**	**144·7**	**36·2**	**36·8**	**30·4**	**167·8**	**37·7**	**33·5**
Greater London	19·6	136·4	30·8	30·0	23·0	144·7	30·8	33·0	24·3	134·2	33·6	30·6
Remainder of South East	34·2	130·6	43·9	33·2	27·7	131·6	35·1	33·9	34·1	177·4	43·1	28·0
North I	30·8	174·8	43·9	51·9	29·6	176·3	50·6	62·4	35·8	232·8	43·6	50·0
North II	45·4	139·4	42·5	47·7	35·9	144·4	47·4	32·5	39·1	277·0	47·2	34·6
North III	36·4	130·0	43·0	29·6	25·1	140·0	28·2	35·0	28·1	138·2	41·0	37·2
North IV	27·6	125·8	33·7	34·5	28·8	132·7	34·4	30·6	32·5	152·5	28·9	29·4
Midland I	30·0	116·1	32·3	33·4	31·3	134·4	30·8	36·2	28·2	154·0	35·1	35·7
Midland II	29·3	126·6	36·0	45·2	31·4	152·7	33·7	41·0	26·3	173·6	38·8	25·0
East	32·4	130·8	36·2	40·2	38·7	179·8	64·7	29·4	31·6	164·6	40·8	34·7
South West	38·6	134·8	52·9	44·7	25·9	131·5	37·3	43·7	30·0	195·3	52·3	27·4
Wales I	28·9	142·9	52·4	38·8	28·3	167·3	47·8	43·5	30·8	177·4	33·2	42·6
Wales II	29·4	139·8	39·5	34·5	10·3	164·8	30·3	39·7	34·6	108·1	56·1	48·3
County boroughs* ...	30·9	145·5	37·7	33·2	29·6	162·1	32·9	35·0	30·8	188·7	37·2	35·2
Other urban districts* ...	29·6	124·8	38·1	39·5	28·5	133·0	38·7	36·8	30·4	171·4	39·3	31·8
Rural districts*	38·3	122·6	48·5	43·1	29·5	132·5	45·2	44·6	34·7	142·7	40·6	36·2

* Excluding Greater London.

Table LXI.—Tuberculosis, non-Respiratory : Proportionate Mortality at certain Ages per 1,000 Deaths from all non-Violent Causes in County Boroughs (Civilians), 1940–42 and 1943–45.

	1940–42						1943–45					
	0–5		5–15		15–45		0–5		5–15		15–45	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Birkenhead	9·6	43·5	161·3	163·9	31·3	26·8	19·6	38·6	189·2	269·2	56·5	23·9
Birmingham	17·2	19·3	90·5	131·6	35·0	30·2	15·6	25·4	93·0	104·7	30·1	29·7
Bolton	21·3	29·9	85·1	41·7	32·0	39·2	11·3	38·6	151·5	107·1	28·0	19·5
Bradford	37·2	18·8	150·0	166·7	27·6	39·8	28·2	34·9	130·4	111·1	55·1	45·2
Bristol	36·5	35·3	90·9	180·6	41·1	26·5	34·5	42·6	186·4	255·8	52·7	42·3
Cardiff	35·1	42·7	153·8	160·5	41·6	36·5	27·7	30·8	216·2	208·3	31·1	28·4
Coventry	18·2	47·6	155·6	114·3	48·6	37·7	29·3	5·0	93·8	312·5	36·0	34·6
Croydon	40·2	29·6	69·0	147·1	31·2	41·0	17·9	37·7	75·0	259·3	30·6	32·0
Kingston-upon-Hull ...	43·8	51·0	181·8	169·5	38·3	42·7	41·6	46·3	185·7	235·3	34·0	46·4
Leeds	38·4	30·2	135·6	173·9	26·9	22·0	26·2	32·6	180·9	194·2	22·6	25·8
Leicester	34·8	39·5	128·6	193·5	34·8	58·4	11·9	34·1	146·3	235·3	35·2	53·3
Liverpool	31·7	35·5	117·8	122·3	36·9	44·2	29·8	24·8	146·1	123·7	37·0	35·1
London admin. county ...	30·5	35·5	165·4	177·7	33·0	34·1	19·4	24·1	146·3	165·1	30·2	31·2
Manchester	29·6	30·7	92·0	173·1	33·6	36·7	27·6	33·3	132·2	192·0	42·9	26·3
Newcastle-upon-Tyne ...	42·0	24·7	259·7	177·4	68·6	60·5	48·6	49·3	324·3	287·5	59·8	60·2
Nottingham	30·2	27·7	162·5	260·9	51·2	50·7	30·4	42·9	145·5	207·5	53·6	26·0
Plymouth	26·7	21·1	44·0	120·0	50·3	55·8	53·8	31·7	125·0	115·4	36·0	34·1
Portsmouth	35·0	33·8	187·5	108·1	70·6	36·0	51·3	63·2	261·9	133·3	11·2	34·9
Salford	36·7	24·3	122·4	87·0	36·5	44·4	20·4	39·0	135·1	357·1	26·9	23·9
Sheffield	39·4	33·9	85·9	106·4	27·0	27·9	34·7	38·8	183·7	135·4	38·8	33·9
Southampton	46·2	44·6	95·2	256·4	30·8	29·6	14·5	15·3	323·5	178·6	55·6	26·8
Stoke-on-Trent	42·3	39·4	111·1	148·1	44·9	27·1	23·4	28·0	174·6	127·0	29·6	24·0
Sunderland	25·7	29·0	117·6	97·8	54·6	46·9	38·9	34·3	260·0	125·0	45·0	51·2
Swansea	46·1	37·9	54·5	94·3	22·5	36·3	54·5	66·7	153·8	250·0	51·3	52·4
West Ham	40·7	37·7	214·3	187·5	39·9	35·0	44·0	36·8	111·1	200·0	18·3	29·4
Other county boroughs ...	33·1	31·4	128·5	112·9	35·7	33·8	29·6	30·9	143·8	162·7	32·4	34·2

27. **Dysentery.**—Table LXII shows the numbers of deaths in each year 1931–45 certified as due to amœbiasis, to bacillary dysentery, and to other protozoal and unspecified dysentery. Deaths from the other protozoal varieties which formed a separate group in the International List from 1939 onwards, numbered one in 1939, one in 1942 and two in 1944. Deducting these, and assuming that unspecified dysentery consisted entirely of the bacterial form, the mean annual deaths from bacterial dysentery in 1931–33, 1934–36, 1937–39, were respectively 88, 77, 97 ; and in successive years 1940–45 the deaths were 181, 314, 189, 118, 146, 154. Amœbiasis deaths averaged seven annually in 1931–39, and nine annually in 1940–45.

Notifications, which purport to comprise all forms, protozoal and bacillary including the Sonne type, averaged about 600 annually in 1921–30 and 800 annually in 1931–34, but then increased to about 4,000 in 1937 and 1938, the excess occurring mainly in the autumn and winter of 1937–38. The numbers of original notifications in years 1931–43 may be taken as four per cent. less than the tabulated figures (*see* page 85). During the war notified incidence increased year by year to 16,774 in 1945, reduced by diagnosis revision to 16,278. The ratio of notifications to deaths rose from about ten in 1931–35 to 37 during the 1937–38 outbreak and then fell back to about 20, but after 1941 it increased year by year to nearly 100 in 1945. It is significant that the rise in notifications between 1939 and 1941 was accompanied by a parallel rise in deaths, so the high prevalence in 1941 cannot be attributed merely to increasing recognition and notification of Sonne dysentery. During the subsequent years 1942–45, however, notifications continued to rise without a corresponding increase in deaths, indicating either an increasing prevalence of mild forms of dysentery or more complete notification of them.

Table LXIII shows that the corrected notification rates in 1944 and 1945 were highest amongst children under five, declined with advancing age to minimal levels at 45–65, and then increased. Boys gave higher rates than girls, but at adult ages females showed higher rates than males. Fatality rates tended to be greater amongst males, though no such excess appeared in 1945 at ages over 45.

Table LXII.—Dysentery : Deaths and Notifications, 1931 to 1945.

	Number of notifications (all forms of dysentery)	Number of deaths registered					Ratio of notifications to deaths (all forms)
		Amœbic dysentery	Bacillary dysentery	Unspecified or other dysentery	Total not specified as amœbic	All forms	
1931	836	8	40	47	87	95	8·8
1932	924	2	46	61	107	109	8·5
1933	783	5	37	33	70	75	10·4
1934	763	7	37	41	78	85	9·0
1935	1,177	8	55	32	87	95	12·4
1936	1,333	6	43	23	66	72	18·5
1937	4,167	6	61	44	105	111	37·5
1938	4,170	10	62	40	102	112	37·2
1939	1,941	10	63	23	86	96	20·2
1940	2,860	4	142	39	181	185	15·5
1941	6,670	15	244	70	314	329	20·3
1942	7,296	8	130	60	190	198	36·8
1943	7,905	6	88	30	118	124	63·8
1944	(*a*) 13,346 (*b*) 13,025	9	102	46	148	157	83·0
1945	(*a*) 16,774 (*b*) 16,278	11	113	41	154	165	98·7

(*a*) Original notifications. (*b*) Fully corrected by diagnosis revision.

Table LXIII.—Dysentery : Corrected Notification and Fatality Rates by Sex and Age, 1944 and 1945.

	Notifications† per 100,000 living				Deaths per 1,000 notifications			
	1944		1945		1944		1945	
	M.	F.	M.	F.	M.	F.	M.	F.
Civilians								
0–	131	107	144	115	17	12	14	9
5–	51	43	58	54	3	6	5	1
15–	16	20	26	29	11	4	10	2
45–	10	15	17	21	26	22	13	15
65 and over ...	23	33	30	33	43	28	36	38
All Ages	32	29	41	37	15	12	13	9
Non-civilians ...	1,242*	282*	1,157*	362*	6	—	7	3

† Fully corrected by diagnosis revision.
* Number of notifications in England and Wales.

30. **Syphilis.**—At the Fifth Revision of the International List this group was enlarged to comprise not only all conditions stated on the death certificate to have been due to syphilis, but also locomotor ataxia, general paralysis of the insane and aneurysm of the aorta whether stated to be of syphilitic origin or not. Not all aneurysms of the aorta are due to syphilis but the probability of syphilitic ætiology is so high that in the attempt to arrive at a total of deaths attributable to syphilis it has for long been the practice to include aortic aneurysm of unstated origin. Admitting a slight overstatement in this sub-group, it must be more than compensated for by understatement of syphilis as the underlying cause of other cardio-vascular disease. In the case of aneurysm described as abdominal, cylindrical, or of unspecified site, enquiry is made for

more information ; and aneurysms of the heart or of a specified artery other than aorta are classified elsewhere.

Deaths so determined from all forms of syphilis in the five years 1935–39 numbered 3,521, 3,432, 3,411, 3,463, 3,300, and in the six years 1940–45 they were 3,216, 3,140, 2,939, 2,825, 2,591, 2,395. There was a steady decline in the numbers after 1938, and the C.M.I. based on 1938 was 2·007 in 1901–10, 1·765 in 1911–20, 1·303 in 1921–30, and decreased in every year thereafter to 0·643 in 1945, the fall in 40 years amounting to 69 per cent.

Table LXIV gives the death-rates at all ages, including those of non-civilians, by sex for each sub-group of syphilitic disease, and the C.M.I. for all forms and each sex, in successive years 1931 to 1945. Congenital syphilis rates decreased during that period by about 60 per cent. ; locomotor ataxia and general paralysis fell by more than half for each sex, aortic aneurysm by a quarter amongst males and other or unspecified syphilis by a third in each sex. No such decrease occurred however, in death-rates of females from aortic aneurysm, the average annual rates in successive triennial periods being 11, 13, 15, 13, 14 per million. This accounts for the slower fall in female mortality from all forms combined, the C.M.I. for males in 1945 being 55 per cent. of the average index in 1931–33, whilst that for females was 64 per cent.

Table LXIV.—Syphilis and Diseases of Syphilitic Origin : Death-rates and Total Comparative Mortality Indices, 1931 to 1945.

	Death-rate per million living*										C.M.I.† (1938 base year)	
	Locomotor ataxia		G.P.I.		Aneurysm of aorta		Congenital syphilis		Other and unspecified		All forms	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1931	23	4	44	11	38	10	10	8	35	13	1·257	1·028
1932	26	5	40	10	37	10	9	7	30	13	1·183	1·015
1933	24	5	36	10	35	12	7	6	33	13	1·125	1·056
1934	20	4	36	10	37	12	6	5	33	11	1·091	0·971
1935	22	4	33	10	38	13	6	4	35	11	1·087	0·975
1936	20	4	30	10	40	14	6	4	32	12	1·025	0·978
1937	18	4	27	11	38	16	5	3	34	13	0·983	1·037
1938	18	4	28	9	38	16	4	3	37	13	1·000	1·000
1939	18	4	28	8	35	14	4	3	35	13	0·963	0·966
1940	17	4	28	9	34	13	4	3	32	13	0·919	0·902
1941	15	4	29	9	33	13	4	4	31	12	0·890	0·888
1942	12	3	25	8	32	13	4	3	32	12	0·838	0·795
1943	12	3	21	7	30	14	5	4	29	12	0·772	0·818
1944	11	2	18	6	28	15	4	3	25	11	0·695	0·761
1945	11	2	16	6	29	12	3	4	23	9	0·648	0·662

* Including deaths of non-civilians in England and Wales ; based on total population inclusive of armed forces at home and abroad in 1940–45, and on the mid-year population in 1939. Rates in 1931–1939 are corrected to 1940 classification.

† Civilians only from 3rd September, 1939 (Males), and from 1st June, 1941 (Females).

Table LXV gives the mean annual death-rates in 1940–45 at various ages in each sex. Expressing the death-rate of males in terms of that of females taken as 100, the sex-ratios were :—

	0–	15–	25–	35–	45–	55–	65 and over	All ages
Locomotor ataxia ...	—	—	115	228	324	503	630	414
G.P.I.	—	195	240	238	340	376	557	306
Aneurysm of aorta ...	—	146	200	306	407	390	196	233
Congenital syphilis...	112	—	—	—	—	—	—	119
Other and unspecified	—	140	165	177	236	332	371	250
All forms	116	144	184	218	308	379	287	257

(86504) E

For aneurysm of the aorta male excess appears to be greatest at ages 45–65, after which it falls off rapidly; but for each of the other forms of acquired syphilis male excess increases progressively with advancing age. The ages of maximal death-rate were 65 and over for locomotor ataxia and aneurysm, 45–55 for G.P.I. and 55–65 for other and unspecified forms.

Table LXVI compares the proportionate mortality in 1940–45 at four age-groups in each region and class of area. At ages over 45 Greater London gave by far the highest proportions for each sex, and at every age the large towns gave higher proportions than rural areas. In 1940–41 the actual adult death-rates per million living compared as follows :—

Ages	Greater London		County boroughs		Other urban districts		Rural districts	
	M.	F.	M.	F.	M.	F.	M.	F.
15– ...	37	18	56	20	38	12	24	12
45–65 ...	395	104	370	112	231	64	168	39

The effect of urbanisation on the total syphilis rates is very pronounced, particularly amongst females aged 45–65. Apart from this, regional variation was not important.

Table LXV.—Syphilis and Diseases of Syphilitic Origin : Mean Annual Death-rates by Sex and Age, 1940–45.

Ages	Death-rate per million living.*											
	Locomotor ataxia		G.P.I.		Aneurysm of aorta		Congenital syphilis		Other and unspecified		All forms of syphilis	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0– ...	—	—	0·68	0·20	0·08	0·08	15·84	14·12	0·04	—	16·64	14·40
15– ...	0·15	—	3·90	2·00	0·82	0·56	1·64	1·89	2·57	1·84	9·08	6·29
25– ...	0·45	0·39	6·37	2·65	1·86	0·93	0·95	0·93	5·51	3·34	15·14	8·25
35– ...	3·31	1·45	25·19	10·58	8·61	2·81	0·47	0·50	17·89	10·08	55·47	25·42
45– ...	16·94	5·23	66·81	19·65	44·70	10·99	0·34	0·47	55·24	23·37	184·03	59·71
55– ...	50·00	9·94	65·85	17·52	114·77	29 41	0·42	0·27	101·18	30·45	332·22	87·59
65 and over	62·55	9·93	28·68	5·15	145·80	74·32	0·19	0·21	90·18	24·30	327·40	113·91
All ages ...	**12·91**	**3·12**	**22·73**	**7·42**	**30·91**	**13·29**	**4·01**	**3·37**	**28·42**	**11·35**	**98·98**	**38·55**

* Including deaths of non-civilians in England and Wales; based on total population inclusive of armed forces at home and abroad.

32a. **Spirochætosis ictero-hæmorrhagica (Weil's Disease).**—Deaths attributed to this disease in successive years 1935–39 numbered 14, 9, 17, 10, 15, and in years 1940–45 they were 20, 18, 18, 19, 24, 29. The distribution by sex and age is shown in Table LXVII. The sex-ratio in 1940–45 was 10 males to one female, and deaths of males at ages 25–, 35–, 45–, 55–65 numbered 22, 21, 23, 23 respectively, indicating little change in risk with age amongst adult males notwithstanding the great differences in proportions of men in the armed forces at the various ages.

33. **Influenza.**—Deaths in the five years 1935–39 numbered 6,770, 5,778, 17,132, 4,446, 8,020, and in the six years 1940–45 they were 11,482, 6,901, 3,399, 12,616, 3,900, 2,686. Table 9 shows that the C.M.I., based on 1938 as unit, ranged between 1·4 and 3·4 in 1905–1917, rose to 29 in 1918 and 11·5 in 1919, and then ranged between one and seven in 1920–1939, exceeding four in the years 1922, 1924, 1927, 1929 and 1933. During 1940–45 the annual indices were 2·52, 1·51, 0·73, 2·65, 0·81, 0·55, reaching lower levels than ever before in three of the years. There has been a progressive fall in the quinquennial indices from 3·77 in 1921–25 to 1·24 in 1941–45.

Table LXVI.—Syphilis and Diseases of Syphilitic Origin: Proportionate Mortality at certain Ages in Regions and different classes of Area. (Civilians), 1940–45.

	Proportions per 1,000 deaths from all non-violent causes at the ages specified							
	0–15		15–45		45–65		65 and over	
	M.	F.	M.	F.	M.	F.	M.	F.
England and Wales...	**2·9**	**3·1**	**11·2**	**5·7**	**16·7**	**7·4**	**4·5**	**1·9**
Greater London ...	2·3	3·7	11·6	6·7	21·8	11·0	8·2	4·1
Remainder of SE. ...	3·0	2·3	11·7	4·7	16·2	6·6	4·7	2·1
North I	3·2	3·4	9·7	6·1	17·3	7·0	3·2	1·1
,, II	2·1	3·6	11·6	5·3	18·9	8·3	4·1	1·6
,, III	3·4	3·1	14·0	7·3	16·9	8·8	4·0	1·6
,, IV	3·6	3·5	12·6	5·9	13·7	6·3	3·1	1·2
Midland I	2·0	2·7	9·6	5·3	15·6	7·2	3·9	1·3
,, II	2·2	2·9	10·5	4·9	13·9	5·9	3·0	1·0
East	3·5	2·5	10·3	6·7	18·1	7·7	3·7	1·6
South West	4·4	3·3	9·1	4·2	14·2	5·1	3·8	1·3
Wales I	2·4	3·1	10·7	4·3	17·1	4·9	2·8	1·1
,, II	3·0	3·3	7·1	4·2	7·0	3·5	2·2	0·6
County boroughs* ...	3·3	3·5	13·0	6·6	18·2	9·3	4·7	1·8
Other urban districts*	2·8	2·7	10·7	4·8	14·2	5·5	3·3	1·3
Rural districts* ...	2·6	2·8	7·8	4·4	11·6	4·0	2·8	1·2

* Excluding Greater London.

Table LXVII.—Spirochætosis ictero-hæmorrhagica (Weil's Disease): Deaths by Sex and Age of Civilians and Non-civilians, 1931–35, 1936–39 and each year 1940 to 1945.

Ages	1931–35*		1936–39*		1940		1941		1942		1943		1944		1945	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
0–	–	1	1	–	–	–	1	–	1	1	2	1	–	–	–	–
15–	4	3	1	1	3	–	5	–	3	–	1	1	3	1	–	1
25–	5	–	11	–	7	–	1	–	2	–	3	1	2	1	7	–
35–	4	–	5	2	3	–	6	–	3	–	2	–	3	–	4	–
45–	7	–	15	1	1	–	2	–	4	1	4	–	6	1	6	–
55–	6	–	11	1	5	–	1	–	1	–	2	1	5	–	9	–
65 and over ...	3	1	3	1	1	–	2	–	2	–	–	1	2	–	1	1
All ages ...	**29**	**5**	**47**	**6**	**20**	**–**	**18**	**–**	**16**	**2**	**14**	**5**	**21**	**3**	**27**	**2**

* According to classification in use in 1931–39. Deaths at all ages of males in 1931–35 were 28 by 1940 classification and deaths of females in 1936–39 were 4.

(86504) E 2

Table LXVIII.—Influenza Mortality in each Quarter, and Pneumonia Mortality in December and March Quarters, in terms of the corresponding Quarter of 1938. Mean Air Temperatures, 1921 to 1945.

Year	Standardized mortality comparison with corresponding quarter of 1938*						Mean air temperature (Greenwich) in excess or defect of average for 1921–45			
	Influenza				Pneumonia		F.			
	March	June	Sept.	Dec.	March	Dec.	March	June	Sept.	Dec.
1921 ...	2·069	1·847	1·586	4·430	1·428	2·034	+3·2	+0·6	+2·4	+2·0
1922 ...	10·924	1·636	1·623	1·846	1·803	1·741	−0·1	−0·1	−3·7	−1·0
1923 ...	1·399	3·332	2·139	2·229	1·127	1·715	+3·5	−2·9	0·0	−2·2
1924 ...	7·666	3·457	1·581	2·219	1·838	1·576	−1·5	+0·3	−1·0	+1·9
1925 ...	4·535	2·227	1·687	2·652	1·274	2·265	+0·9	+0·7	−0·9	−1·2
1926 ...	1·698	3·077	1·606	2·364	1·258	1·623	+2·5	−0·4	+1·2	−1·3
1927 ...	10·304	1·442	1·762	2·595	1·881	1·581	+1·5	−0·5	−1·2	−1·6
1928 ...	1·820	1·712	1·691	2·292	1·224	1·512	+2·1	−1·2	+0·4	+0·7
1929 ...	13·487	2·601	1·492	1·784	2·493	1·455	−4·3	−1·3	+2·2	+1·2
1930 ...	1·212	0·886	1·207	1·552	1·099	1·351	+0·7	+0·7	0·0	+0·7
1931 ...	5·094	1·671	1·338	2·927	1·621	1·520	−1·6	+0·3	−2·6	+0·8
1932 ...	4·890	1·234	1·028	2·463	1·325	1·375	−0·4	−1·2	+1·3	+0·2
1933 ...	10·478	0·800	0·968	1·854	1·386	1·491	−0·1	+1·6	+3·7	−2·2
1934 ...	1·409	1·090	0·909	1·260	1·245	1·126	−1·2	+1·0	+1·8	+2·6
1935 ...	1·448	2·069	1·006	1·495	0·947	1·323	+1·5	−0·4	+1·8	−0·3
1936 ...	1·450	0·863	0·955	1·775	1·209	1·238	0·0	−0·4	+0·1	−0·2
1937 ...	7·775	0·863	0·839	1·394	1·175	1·438	+0·3	+1·1	+1·4	−1·1
1938 ...	1·000	1·000	1·000	1·000	1·000	1·000	+3·4	−1·3	−0·2	+1·4
1939 ...	2·997	1·068	0·655	0·927	0·967	0·828	+0·6	−0·7	−6·1	−0·8
1940 ...	4·919	0·658	0·614	0·887	1·360	1·093	−4·0	+1·4	−1·5	−0·6
1941 ...	2·558	0·716	0·533	0·820	1·070	0·952	−3·0	−3·0	+0·1	+0·6
1942 ...	0·983	0·435	0·529	0·738	0·790	0·830	−5·6	+0·3	0·0	+1·1
1943 ...	1·150	0·484	0·463	10·600	0·740	1·527	+1·5	+2·3	+0·1	−0·1
1944 ...	1·248	0·320	0·422	0·746	0·670	0·843	−0·6	+0·1	−0·9	−1·6
1945 ...	0·691	0·200	0·320	0·869	0·721	0·850	+0·8	+2·1	+0·4	+2·0

* Derived from the Comparative Mortality Index for the year multiplied by the ratio of proportion of annual deaths occurring in the quarter to the corresponding proportion for 1938.

Table LXVIII shows the comparative mortality for each quarter during 1921–45, based upon the corresponding quarter of 1938 as unit, and assuming changes in age-distribution of the population to have affected the death-rates of separate quarters in the same measure as the annual death-rates. In the whole period of 25 years, five quarters were conspicuous in producing indices exceeding 10, namely the March quarters of 1922, 1927, 1929, 1933 and the December quarter of 1943, and these were the major epidemics of the period. Two March quarters followed with indices approximating to $7\frac{1}{2}$, those of 1924 and 1937 with moderate epidemics. Next in order were four March quarters with indices clustered around five, those of 1925, 1931, 1932 and 1940, with minor epidemics. In the December quarter of 1921 mortality was high because of an early start of the 1922 epidemic already referred to. The remaining 88 quarters all with indices below 3·5, had the following distribution :—

C.M.I.	March	June	September	December
0– ...	–	4	3	–
0·5– ...	2	6	8	6
1·0– ...	8	5	6	4
1·5– ...	2	4	7	5
2·0– ...	1	2	1	5
2·5– ...	2	1	–	3
3·0–3·5 ...	–	3	–	–

Remembering that each quarter is based upon the mortality in the same quarter of 1938 as unit, which accounts for the generally lower values for the September quarters, there is no appreciable difference between the distributions

for March, September and December quarters, but the June quarters show a greater variability than the others. With the possible exceptions of the June quarters of 1923 and 1926, there seems no statistical justification for regarding any of these 88 indices as outside the ordinary range of variation and the criterion for minor, moderate and major epidemics suggested above is perhaps as good a guide as any. Of the 11 epidemics so defined during the 25 years, three occurred in 1921–25, two in 1926–30, three in 1931–35, two in 1936–40 and one in 1941–45.

Table LXVIII also shows similar indices for pneumonia not certified as influenzal in the March and December quarters of 1921–45. In the March quarters the range was from 0·7 to 2·5, and the index exceeded 1·5 in 1922, 1924, 1927, 1929, 1931, all coincident with epidemic influenza as defined above ; but thereafter the progressive fall in the C.M.I. for pneumonia necessitates a lower base line. In 1932–45 the index was 1·3 or over in March quarters of 1932, 1933, 1940, and reached 1·5 in December quarter of 1943, all coincident with influenza epidemics. The epidemics of 1925 and 1937 were unusual in the absence of any appreciable increase in non-influenzal pneumonia deaths, and the December quarter of 1925 was noteworthy for high pneumonia mortality without coincident influenza.

The mean air temperature at Greenwich in each quarter is shown in the table because of the alleged connection between influenza prevalence and weather conditions. Of the ten " epidemic " March quarters seven had mean temperatures below average whereas of the 15 March quarters without an epidemic only four had temperatures below average. The mean temperature of the former was 1·5 degrees below that of the latter group. This relation can hardly be fortuitous and suggests that cold weather in the March quarter is a factor which favours the occurrence of an influenza epidemic. It cannot be explained merely by rather higher fatality of influenza during cold weather.

During the 28 quarters of the period 1931–37 the C.M.I. fell below unity in seven, but in the 28 quarters of 1939–45 this occurred in 21 quarters. There was a progressive decline in the September quarter index after 1938, and in the June quarter index after 1939. Comparison is made below of the death-rates per million *females* of different age-groups in the four epidemic-free years 1935, 1938, 1942 and 1945.

Year	0–	15–	25–	35–	45–	55–	65–	75 and over
1935 ...	49	32	41	93	128	270	583	1,476
1938 ...	37	24	27	44	74	140	328	863
1942 ...	35	16	18	30	44	95	238	698
1945 ...	27	8	10	17	35	75	178	561

The relative decrease in mortality after 1938 was most pronounced at ages 15–35, and least at the extremes of life. Since most " influenza " deaths in epidemic-free years are due to secondary bacterial infections of the respiratory tract, it is reasonable to suppose that the use of sulphonamides has played a part in this great decrease.

35. **Measles.**—Deaths in the five years 1935–39 numbered 1,264, 2,593, 980, 1,524, 303, and in the six years 1940–45 they were 857, 1,145, 458, 773, 243, 729. The death-rate at ages under 15 averaged 1,150 per million in 1881–1900, falling to 838 in 1911–20, 270 in 1931–35, 138 in 1936–40 and 75 in 1941–45 (Table 9). From 1932 to 1939, years of high and low mortality alternated,

(86504) E 3

but the sequence was interrupted by delayed appearance of the 1940 epidemic in London, with resulting carry over into 1941. The maxima then occurred in odd instead of even years as shown by the successive rates from 1936 to 1945 which were 281, 106, 169, 34, 95, 128, 53, 86, 28, 80. The death-rates at ages 0–1 and 1–5 years have been dealt with in Tables XXII and XXVIII.

Notification of measles was introduced throughout the country at the beginning of the war, and the numbers of notifications in successive years from 1940 to 1945 were 409,521, 409,715, 286,341, 376,104, 159,041, 446,828. The totals for 1944 and 1945 are original notifications, and for strict comparability with these the numbers for 1940–43 should be reduced by 1·2 per cent., the estimated effect of the partial correction which was made in those years. Diagnosis revision as practised in 1944 and 1945 reduced the original notifications slightly, to 158,479 and 446,796 respectively, instead of increasing them, an adjustment which has no appreciable effect on rates. The ratios of deaths per 1,000 notifications at all ages in the six years were 2·1, 2·8, 1·6, 2·1, 1·5, 1·6.

Table LXIX shows the notification rates and fatality ratios at different ages for each sex in 1944 and 1945. The fallacy of comparing notification rates at all ages in the two sexes when the disease notified affects children mainly is well illustrated. In 1944 the rates at every separate age-group were slightly greater for females than males, but nevertheless the rate at all ages showed considerable male excess, owing to the large preponderance of females in the population aged 15 and over, at which ages notification rates are extremely small. In 1945 also, female rates were slightly greater than male rates at each age except 1–3. The sex difference, however, is almost negligible, and in this respect measles differs from scarlet fever, whooping cough and diphtheria, for which the sex differences are significant. (Tables XLIII, XLV, XLVIII).

The mean annual number of notifications in 1940–45 was 348 thousands and in 1944–45 it was 303 thousands, so the average risk of being notified for measles before age 15 may be taken as roughly $\frac{348}{303} \times \frac{1}{4{,}000}[a + 2b + 2c + 5d + 5e]$, where a, b, c, d, e are the sums of the four rates in Table LXIX at ages 0–1, 1–3, 3–5, 5–10, 10–15 respectively. The resulting figure of 0·57 implies that 57 per cent. of children born may expect to be notified for measles before reaching age 15. In urban areas, between 80 and 90 per cent. of children have been estimated from various sources before the war to have recognizable measles at some time, but for rural children the proportion was much lower, and it is doubtful whether for the country as a whole the true measles risk before age 15 exceeds 70 per cent.* It is apparent that notification of measles is more complete than is generally supposed, and that the fatality rates based on notifications are not overstated in Table LXIX by more than one-third. After the first year of life when fatality is about one per cent., it falls below three per 1,000 at 1–3 years and to about one in 3,000 at 5–10 years, the sexes showing no consistent differences.

Table LXX compares the notification, mortality and fatality rates at ages 0–5 and notification rates at 5–15 by regions and classes of area in 1944 and 1945. In 1944, which was not an epidemic year in London, North IV had the highest prevalence at each age, followed by North I, Midland I, North II and the South West. In 1945 one-eighth of all children under five in North III were notified for measles, and all the other regions gave rates between seven and ten per cent. except the predominantly rural regions and North IV. In 1944

* Amongst children admitted to boarding schools during 1930–34 at ages mostly 13–16, 72 per cent. of boys and 63 per cent. of girls were said to have had measles. (Medical Research Council. Epidemics in Schools. Table LIX, 1938).

when measles was epidemic only in a few areas, the county boroughs gave a much higher rate than rural districts at ages under five ; but in 1945 the excess was less pronounced, and at ages 5–15 rural districts gave the higher rate. This reversal of the urban-rural ratio at 5–15 in years of generally high prevalence was to be expected from the postponement of attack in those places where exposure to infection of young children is less frequent, but hitherto it has not been possible to demonstrate it on a national scale.

Table LXIX.—Measles : Corrected Notification and Fatality Rates by Sex and Age (Civilians), 1944 and 1945.

	Notifications* per 1,000 living				Deaths per 1,000 notifications*			
	1944		1945		1944		1945	
	M	F	M	F	M	F	M	F
0–	8·9	9·1	27·6	28·3	14·7	14·0	14·4	11·7
1–	24·9	25·0	76·7	75·3	3·4	3·3	3·0	3·1
3–	34·4	34·7	102·6	103·5	0·6	1·0	0·6	0·7
5–	23·0	24·0	61·7	62·8	0·2	0·4	0·3	0·4
10–	3·0	3·7	7·4	8·1	0·2	—	0·7	0·1
15 and over	0·2	0·3	0·4	0·5	—	0·5	1·9	2·3
All ages	**4·8**	**3·7**	**13·6**	**10·2**	**1·5**	**1·6**	**1·7**	**1·6**

*Fully corrected by diagnosis revision.

Table LXX.—Measles : Notification Rates at Ages 0–5 and 5–15, Death-rates and Fatality Rates in Regions, 1944 and 1945.

	Notifications* per 1,000 living at				Deaths at ages 0–5			
	Ages 0–5		Ages 5–15		Per million living		Per 1,000 notifications*	
	1944	1945	1944	1945	1944	1945	1944	1945
England and Wales	**25**	**75**	**13**	**35**	**73**	**202**	**2·9**	**2·7**
South East	15	71	11	41	36	139	2·4	2·0
Greater London	15	74	10	34	31	133	2·1	1·8
Remainder of S.E.	15	68	13	48	41	145	2·7	2·1
North	42	80	18	28	132	238	3·2	3·0
North I	42	76	21	26	113	234	2·7	3·1
North II	23	76	12	38	60	195	2·6	2·6
North III	19	126	10	43	31	344	1·6	2·7
North IV	59	57	23	18	212	188	3·6	3·3
Midland	21	80	11	37	64	260	3·1	3·2
Midland I	25	73	13	33	76	269	3·1	3·7
Midland II	13	96	8	44	40	244	3·1	2·5
East	13	52	13	38	14	167	1·1	3·2
South West	21	64	15	48	37	66	1·7	1·0
Wales	11	78	7	29	55	286	4·9	3·7
Wales I	11	87	7	28	42	374	3·9	4·3
Wales II	12	56	9	31	88	55	7·1	1·0
County boroughs†	36	82	15	28	125	257	3·5	3·1
Other urban districts†	26	78	15	37	65	206	2·5	2·6
Rural districts†	14	60	12	45	41	168	3·0	2·8

* Fully corrected by diagnosis revision.
† Excluding Greater London.

(86504) E 4

The variations in mortality by region and class of area, which have been so often pointed out without being able to decide to what extent they were due to differences in prevalence or in fatality, are now seen to be due mainly to differences in prevalence. The fatality rates in each year at ages under five were only slightly higher in county boroughs than in rural districts, and showed no important regional differences except for the rather high rates in Wales and low rates in Greater London and the South West.

36. **Acute Poliomyelitis and Polioencephalitis.**—Deaths from these causes in the five years 1935–39 numbered 146, 103, 153, 256, 143, and in the six years 1940–45 they were 161, 160, 132, 90, 109, 139. Table LXXI gives the annual record since 1931, with distinction of the encephalitic form, and it is apparent that polioencephalitis contributed the following percentages of the total notifications and deaths in successive periods :—

	1931–33	1934–36	1937–39	1940–42	1943–45
Notifications	11·9	10·3	8·5	11·2	9·7
Deaths	36·8	35·3	33·7	33·3	26·9

The combined death-rate at ages under 15 which averaged ten per million annually in 1931–37 and rose to 18 in 1938, declined thereafter to four in 1943–45. Notifications from both varieties averaged about 700 annually during 1931–37, after applying the small adjustment to allow for the partial corrections carried out prior to 1944, the factor by which to estimate the original notifications being 1·035 (*see* page 85). In 1938 the estimated total rose to 1,640 ; and in the five years 1939–43 there were 861, 1,117, 993, 698, 472. In 1944 and 1945 original notifications numbered 590 and 904, which were reduced to 532 and 858 respectively after diagnosis corrections by the infectious diseases hospitals. The percentage ratios of deaths to notifications were as follows :—

	Deaths per 100 original notifications					Deaths per 100 corrected notifications 1944–45
	1931–33	1934–37	1938	1939–43	1944–45	
Poliomyelitis	17·2	13·3	11·3	12·5	13·6	14·7
Polioencephalitis	74	63	83	50	44	45

The sex and age distribution of the corrected notifications and deaths in the two years 1944–45 with the mean annual rates of notified prevalence and fatality are shown below.

Age-group	Acute poliomyelitis				Acute polioencephalitis				All forms	
	Cases		Deaths		Cases		Deaths		Cases per million living	Deaths per 100 cases
	M.	F.	M.	F.	M.	F.	M.	F.		
Civilians										
0–	22	22	3	1	2	—	1	3	34	17
1–	101	77	3	4	7	14	3	5	79	7
3–	76	68	2	1	8	6	1	1	72	3
5–	147	133	5	6	11	12	3	2	54	5
10–	101	85	12	10	14	7	6	1	38	14
15–	89	97	23	12	9	9	4	6	22	22
25 and over	73	76	41	36	17	11	22	6	4	58
Unknown	11	8	—	—	1	2	—	—	—	—
All ages	620	566	89	70	69	61	40	24	17	17
Non-civilians (all ages) ...	44	7	23	2	12	—	—	—	—	40

Table LXXI.—Acute Poliomyelitis and Polioencephalitis, and Acute Infectious Encephalitis : Notifications and Deaths.* 1931 to 1945.

Year	Acute poliomyelitis		Acute polioencephalitis		Acute poliomyelitis and polioencephalitis		Acute infectious encephalitis				
					Death-rate per million			No. of deaths			
	No. of notifications	No. of deaths	No. of notifications	No. of deaths	Ages 0–15	All ages †	No. of notifications	Acute form	Sequelæ	Unspecified	Total
1931	341	64	55	35	7	2	654	?	?	?	771
1932	656	104	94	75	13	4	564	?	?	?	662
1933	714	136	83	67	13	5	432	?	?	?	654
1934	590	83	81	53	9	3	411	?	?	?	632
1935	633	98	67	48	11	4	329	?	?	?	579
1936	530	68	53	35	7	3	269	?	?	?	574
1937	768	97	95	56	8	4	217	?	?	?	599
1938	1,489	174	96	82	18	6	194	?	?	?	516
1939	744	95	88	48	10	3	159	37	223	312	572
1940	951	107	128	54	9	4	211	49	356	324	729
1941	876	113	83	47	9	4	191	36	363	305	704
1942	581	82	93	50	7	3	148	29	330	231	590
1943	410	63	46	27	4	2	109	20	304	171	495
1944	(*a*) 523	87	(*a*) 67	22	4	3	(*a*) 88	14	244	159	417
	(*b*) 464		(*b*) 68				(*b*) 79				
1945	(*a*) 827	97	(*a*) 77	42	4	3	(*a*) 93	32	288	141	461
	(*b*) 784		(*b*) 74				(*b*) 76				

* Deaths are corrected to 1940 classification.

† Civilian rates in 1940–45.

(*a*) Original notifications.

(*b*) Corrected by diagnosis revision.

The rate of notified incidence was maximal at ages 1–3 and only slightly less at 3–5, but declined progressively thereafter with advancing age. The ratio of deaths to cases on the other hand was smallest between ages one and ten years at about five per cent., and increased to over 50 per cent. amongst adults over 25. In a period when incidence is not changing much from year to year this does not necessarily mean that the true fatality of poliomyelitis with onset in adult life is anything like 50 per cent., since many of the deaths of adults are from late effects of paralysis whose onset was in childhood. The present International List does not distinguish deaths from late effects of poliomyelitis from the more immediate fatalities, and when that distinction is made it will be necessary to ask those who certify deaths to state the interval which elapsed between onset and death. Until that can be done interpretation of the statistics is difficult, but an estimate of the immediate fatality in adults can be arrived at from the deaths and cases which occurred amongst non-civilians. No man would be likely to enter the services with any residual disability left by poliomyelitis in childhood, and it may be assumed that all the deaths of non-civilians in 1940–45 occurred amongst cases of recent origin. In years 1940–45 there were amongst non-civilians 145 notifications and 43 deaths, leading to an immediate fatality ratio of 30 per cent. Other deaths may have resulted after return to civilian life, or may yet result from late effects of paralysis.

Prior to 1944 no national figures of notifications by sex and age were obtainable, and the changes in age-distribution can be inferred only from the deaths.

	Years	Percentage distribution at ages					All ages
		0–	5–	10–	15–	25 and over	
Deaths	1926–30 ...	40	16	11	18	15	100
	1931–37 ...	31	16	15	17	21	100
	1938	23	20	17	17	23	100
	1939–43 ...	22	15	13	21	29	100
	1944–45 ...	11	6	12	23	48	100
Cases	1944–45 ...	30	22	15	18	15	100

It is apparent that between 1926 and 1943 there was a progressive change, not interrupted by the epidemic of 1938, in age distribution of the deaths, an increasing proportion occurring amongst adults and diminishing proportion at ages under five. This change was intensified in 1944–45, when only 17 per cent. of deaths were of children under ten, compared with 57 per cent. in 1926–30, and the proportion at ages over 25 rose to nearly one-half.

37. **Acute infectious encephalitis (lethargic or epidemic).**—Deaths attributed to this disease and its late effects have for many years exceeded the notifications of new cases, and whilst the former have been decreasing slowly the latter have diminished in numbers much more rapidly. Table LXXI shows that in the seven years from 1931 to 1938, deaths declined from 771 to 516 and notifications from 654 to 194. From 1939 onwards distinction was attempted between deaths caused by acute infectious encephalitis directly and those resulting long afterwards from its sequelæ. The information given on death certificates often does not suffice to make such distinction, and as in the case of acute poliomyelitis it may not be possible to obtain satisfactory statistics without asking for a statement of the interval between the initial illness and the death. In 1939, out of 572 deaths, only for 260 was it possible to distinguish the delayed deaths from the more immediate ones, leaving 312 which could not be classified. The proportion unspecified diminished, however, and in 1945 it was possible to classify 320 out of 461 into one or other group. If it can be assumed that the deaths without specification were distributed between the acute and delayed varieties in the same proportion as the better defined ones, a somewhat doubtful assumption, the numbers due to the acute condition in successive years from 1939 to 1945, must have been 81, 88, 64, 48, 31, 23, 46. The percentage ratios of these estimates of the immediate deaths to the notifications in the same year are 51, 42, 34, 32, 28, 26, 49. This suggests an immediate fatality of 30 to 40 per cent., provided that the assumption as to deaths of unspecified type is true and that notification was substantially complete.

In 1944-45 diagnosis revision reduced the number of original notifications from 181 to 155, or by one-seventh, and the sex and age distribution of the 155 cases was as follows :—

	0–	5–	15–	45–	65 and over	Un-known	All ages
Males ...	11	22	20	13	4	1	71
Females ...	6	19	27	18	14	—	84

44b. **Hodgkin's Disease (Pernicious Lymphogranulomatosis).**—Deaths from this disease, which is now regarded as a form of malignant neoplasm, averaged 538 annually both in the periods 1931–35 and 1936–39, varying only between 514 and 575. In the years 1940–45 the numbers increased as follows :—571, 542, 588, 592, 609, 652.

Table LXXII gives the mean annual death-rates by sex and age in five periods between 1911 and 1945. The equivalent average death-rates at ages under 65,

which differ little from the crude rates at all ages, were increasing up to 1931–39 for each sex and showed no appreciable change in 1940–42 : but they increased again in 1943–45, the male rate being about double that of females throughout. The rates are based on total populations inclusive of non-civilians and are not therefore influenced by selection. During 1911–30 the age period with highest mortality was 65–75 for each sex, and rates at those ages were double those at 45–55. After 1931 the male death-rate at 55–65 equalled and then slightly exceeded that at 65–75, though female mortality continued to reach its maximum after 65.

Table LXXII.—Hodgkin's Disease : Death-rates by Sex and Age.* 1911–20, 1921–30, 1931–39, 1940–42, 1943–45.

Ages	Mean annual death-rates per million living									
	1911–20		1921–30		1931–39		1940–42		1943–45	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
All ages, crude ...	**10·2**	**5·4**	**14·1**	**7·3**	**17·6**	**9·2**	**17·8**	**9·6**	**18·9**	**10·5**
Ages 0–65, E.A.D.R.	10·8	5·7	14·5	7·3	17·8	8·5	17·7	8·7	18·7	9·4
0–	6·6	2·4	6·8	2·5	7·3	2·2	6·1	2·0	4·5	1·7
15–	7·7	4·5	11·3	5·5	12·4	6·6	10·3	6·0	12·1	7·5
25–	9·1	4·2	12·4	6·5	16·7	9·1	17·5	8·7	19·2	11·9
35–	9·7	5·4	15·0	6·6	18·5	10·0	19·0	9·6	19·6	9·1
45–	13·7	7·7	18·1	8·9	23·8	10·8	24·4	12·6	25·8	12·2
55–	20·2	11·8	27·2	16·5	33·6	15·6	34·5	16·7	37·8	18·0
65–	28·8	13·5	34·2	18·8	33·5	20·1	33·3	18·7	36·6	20·6
75 and over ...	15·1	11·5	25·5	15·3	28·9	19·4	29·0	20·7	28·2	20·2

* Including deaths of non-civilians in England and Wales, and based upon mid-year populations before 1940 and total populations inclusive of armed forces at home and abroad in 1940–45. Rates prior to 1940 accord with the 1940 classification.

Table LXXIII.—Hodgkin's Disease : Mortality at all Ages in Regions and different classes of Area. (Civilians). 1940–44.

	Number of deaths registered		Calculated deaths*		Comparative mortality (C.M.F.)	
	M.	F.	M.	F.	M.	F.
England and Wales	**1,759**	**1,066**	**1,759**	**1,066**	**100**	**100**
Greater London	356	233	315	189	113	123
Remainder of South East ...	263	204	251	164	105	124
North I	104	45	95	52	109	87
North II	54	37	54	33	100	112
North III	160	73	152	91	105	80
North IV	276	146	262	162	105	90
Midland I	178	96	221	128	81	75
Midland II	105	55	113	66	93	83
East	69	50	82	49	84	102
South West	85	53	97	66	88	80
Wales I	83	45	84	45	99	100
Wales II	26	29	33	21	79	138
County boroughs†	573	300	524	322	109	93
Other urban districts† ...	513	333	570	349	90	95
Rural districts†	317	200	350	206	91	97

* By taking into account the estimated differences in age distribution ; for method *see* page 27.

† Excluding Greater London.

Table LXXIII shows the numbers of deaths and comparative mortality figures for regions and classes of area in 1940–44. There was significant excess in Greater London and the county boroughs for males, and in the South East region amongst females, whilst Midland I had significantly low mortality for each sex.

45–55. **Cancer and other Malignant Tumours.**—According to the International List (Fifth Revision) in use since 1940, this group includes amongst others the following varieties of neoplasm :—carcinoma, epithelioma, sarcoma, any neoplasm described as malignant, glioma unless stated to be benign, rodent ulcer, chordoma, Ewing's tumour, pinealoma, scirrhus, seminoma, blastocytoma and varieties of blastoma. In the case of astrocytoma, chloroma, endothelioma, ependymoma, melanoma, myeloma, papilloma choroideum, reticular endotheliosis and some other varieties, it has been the practice to enquire of the certifier whether or not the neoplasm was considered to be either malignant or invasive. Lymphosarcoma is included, but lymphadenoma, Hodgkin's disease and leukæmia are excluded.

An important change in the content of the group hitherto defined as "cancer" in the national statistics was the transfer into it from 1940 onwards, in accordance with the Fifth Revision, of gliomas (except when specified as benign), and of some other varieties of neoplasm* of the brain and nervous system unless on enquiry they were stated to be benign. The statistical effect of this addition on death-rates from cancer of all sites at all ages combined is an increase of about 0·9 per cent. for males and about 0·6 per cent. for females, but the effect on cancer death-rates of children is very much greater. In the years 1940–42, as shown by the first five lines of Tables LXXIX (*a*), (*b*), (*c*), there were 1,567 deaths classified to the glioma group (now distinguished as No. 54 (*a*) in the list), 7,279 to the sarcoma group†, 186,908 to the carcinoma group, and 12,814 to cancer undefined. The frequencies of these groups at various ages, expressed as percentages of all cancer deaths at those ages, are shown in the following table :—

Age-group	Males					Females				
	Carcinoma	Sarcoma	Glioma	Undefined	Total	Carcinoma	Sarcoma	Glioma	Undefined	Total
0–	6·8	64·7	20·4	8·1	100	14·5	54·2	17·5	13·8	100
5–	9·1	57·9	24·6	8·4	100	14·5	51·9	26·2	7·4	100
15–	31·0	53·1	10·9	5·0	100	38·1	44·2	9·8	7·9	100
25–	67·0	20·2	6·7	6·1	100	74·6	13·3	4·8	7·3	100
35–	79·5	9·9	4·2	6·4	100	88·0	4·9	1·5	5·6	100
45–	86·4	5·4	2·1	6·1	100	90·4	3·0	1·0	5·6	100
55–	89·1	3·8	0·9	6·2	100	90·9	2·7	0·6	5·8	100
60–	89·9	3·3	0·5	6·3	100	90·9	2·5	0·3	6·3	100
65–	90·9	2·6	0·2	6·3	100	91·8	2·5	0·1	5·6	100
70–	91·6	1·9	0·1	6·4	100	91·9	2·1	0·1	5·9	100
75–	91·9	1·7	0·0	6·4	100	92·2	1·6	0·1	6·1	100
80 and over ...	91·4	1·6	—	7·0	100	92·3	1·6	0·0	6·1	100
All ages	88·7	4·0	0·9	6·4	100	90·5	3·0	0·6	5·9	100

The contribution of the sarcoma group of neoplasms to the total declines continuously with advancing age from about 65 per cent. for males and 54 for

* See Manual of the International List, 1938, page 14 for these varieties, which are marked with a star.

† For definition of this group, *see* note on page 138.

females at ages 0–5 to 1·6 per cent. at ages over 80, and is considerably less for females than males at every age up to 65. The glioma group contributes about one-quarter of the total amongst children aged 5–15, and rather less at ages under five, but the proportion falls rapidly to below one per cent. by age 55 and becomes negligible at advanced ages; and the relative male excess is most pronounced at ages between 35 and 55. The proportion of undefined cancer is higher amongst children, but varies little with age thereafter.

It is evident that the statistical effect of adding the glioma group is important at the younger ages and in any comparisons with death-rates from cancer of all sites at separate ages in years prior to 1940 it does not suffice to apply the conversion ratios for all ages combined. Apart from this change in the International List definition of cancer, there was also the change in the basis of selecting the underlying cause of death when another disease is mentioned in association with cancer. Since the old system of rules gave very high priority to cancer over other diseases, whereas the certifying physician frequently considers cancer to have been merely a contributory cause, the resulting reduction more than counteracted the addition of glioma at ages over 45, though not at ages before 45. The resultant effect of the combined changes at different ages was ascertained by the dual classification carried out in years 1936–39, and the conversion ratios to be applied to death-rates from cancer of all sites by sex and age in years before 1936 are shown in the table below. The rates for the quinquennium 1931–35, obtained by application of these factors, and slight adjustment to give the correct total, form the basis of the percentages in the right-hand portion of Table LXXV, and are given for convenience below. The rates for the period 1936–39, given in Table LXXIV, were derived directly from the dual classification adding the glioma deaths.

Age-group	Conversion ratios for application to deaths prior to 1936 from cancer of all sites (Nos. 45–53 of International List 1929)		Mean annual death-rates per million living in 1931–35, adjusted to 1940 classification of cancer and other malignant neoplasms	
	Males	Females	Males	Females
0–	1·107	1·117	44	40
5–	1·169	1·160	25	19
15–	1·081	1·068	49	41
25–	1·024	1·020	121	157
35–	1·011	1·002	446	732
45–	0·996	0·986	1,618	2,048
55–	0·981	0·977	4,601	4,010
65–	0·966	0·959	9,760	7,167
75 and over	0·951	0·931	13,486	10,978
All ages	0·975	0·967	1,470	1,506
0–65 E.A.D.R. ...	—	—	1,059	1,081

For cancer of many individual sites and groups of sites the conversion factors to be applied to deaths and rates of years prior to 1936 are given in Appendix B1 of the Review for 1940; and the fully corrected numbers of deaths and crude death-rates in each year 1931–39 are given in Tables 6 and 7 of that Review. For cancer of the brain and other parts of the nervous system (No. 54) comparability with past years can be obtained by means of Table LXI of the Review for 1938–39, after slight adjustment for the effects of the change in multiple cause classification (*see* Table LXXXII of this Review).

Deaths from cancer and other malignant tumours, as defined above, in the four years 1936–39 numbered 64,302, 64,943, 66,584, 67,154, and in the six years 1940–45 there were 68,922, 69,227, 70,419, 72,155, 72,110, 74,291. The total of 427,124 deaths in 1940–45 consisted of 208,668 deaths of males (civilians

206,723, non-civilians 1,945) and 218,456 of females (civilians 218,385, non-civilians 71). Of the total, 383,182 were classified to the carcinoma group, 14,928 to the sarcoma group (including lymphosarcoma), 3,272 to the glioma group and 25,742 to undefined cancer.

Table LXXIV gives the death-rates from cancer of all sites by sex and age in each year 1940–45, and the mean annual rates in 1936–39. These rates are based upon the total populations inclusive of armed forces at home and abroad and are not therefore influenced by civilian selection except in so far as the few deaths from cancer which occurred abroad in the services are not included. Table LXXV expresses the rates in the previous table in terms of the corresponding mean annual death-rates in 1931–35 taken as 100 and also expresses the rates of 1911–20, 1921–30 and 1931–35 as percentages of those in 1901–10. This brings out more clearly the differences in trend of mortality between the sexes, and at various ages, in two periods 1901–35 and 1931–45.

Table LXXIV.—Cancer of all Sites : Death-rates per million living* by Sex and Age in 1936-39, and each year 1940 to 1945.

	1936–39†	1940	1941	1942	1943	1944	1945
	MALES						
All ages	**1,595**	**1,648**	**1,675**	**1,699**	**1,739**	**1,724**	**1,790**
Ages 0–65, E.A.D.R.	1,070	1,087	1,091	1,083	1,088	1,090	1,135
0–	49	49	61	42	51	37	48
5–	25	29	29	29	30	31	30
15–	58	54	50	53	55	60	54
25–	146	129	153	129	134	130	155
35–	469	493	505	507	501	508	517
45–	1,624	1,684	1,680	1,704	1,729	1,725	1,792
55–	4,610	4,650	4,647	4,596	4,597	4,610	4,803
65–	9,690	9,729	9,821	9,959	9,878	9,627	9,705
75 and over	14,346	14,714	14,248	13,815	14,199	13,528	13,585
	FEMALES						
All ages	**1,601**	**1,645**	**1,643**	**1,664**	**1,687**	**1,676**	**1,699**
Ages 0–65, E.A.D.R.	1,065	1,053	1,045	1,045	1,039	1,029	1,011
0–	40	40	37	41	33	47	46
5–	21	22	26	27	24	23	27
15–	44	42	38	42	46	39	39
25–	161	164	175	169	174	165	165
35–	718	688	692	691	689	675	669
45–	2,012	2,018	2,010	1,975	1,960	1,958	1,900
55–	3,946	3,893	3,831	3,871	3,843	3,807	3,747
65–	7,022	7,071	6,833	6,871	6,762	6,588	6,645
75 and over	10,950	10,717	10,552	10,280	10,418	10,020	10,165

* Including deaths of non-civilians in England and Wales, and based upon mid-year populations in 1936–39 and total populations inclusive of armed forces at home and abroad in 1940–45.

† Rates for 1936–39 accord with the classification in use from 1940 onwards, the deaths being those regarded by the certifier as caused by cancer, defined as in the Fifth Revision of the International List.

Table LXXV.—Cancer of all Sites: Mortality by Sex and Age in 1911–20, 1921–30 and 1931–35 per cent. of that in 1901–10; and Mortality in 1936–39 and each year 1940 to 1945 per cent. of that in 1931–35.*

	Per cent. of rate in 1901–10			Per cent. of rate in 1931–35						
	1911–20	1921–30	1931–35	1936–39	1940	1941	1942	1943	1944	1945
	MALES									
All ages	**128**	**167**	**195**	**109**	**112**	**114**	**116**	**118**	**117**	**122**
Ages 0–65 E.A.D.R.	111	116	115	101	103	103	102	103	103	107
0–	97	97	111	111	111	139	95	116	84	109
5–	94	106	122	100	116	116	116	120	124	120
15–	107	112	112	118	110	102	108	112	122	110
25–	101	106	109	121	107	126	107	111	107	128
35–	102	101	107	105	111	113	114	112	114	116
45–	108	105	105	100	104	104	105	107	107	111
55–	114	121	120	100	101	101	100	100	100	104
65–	120	143	152	99	100	101	102	101	99	99
75 and over ...	124	162	180	106	109	106	102	105	100	101
	FEMALES									
All ages	**114**	**135**	**152**	**106**	**109**	**109**	**110**	**112**	**111**	**113**
Ages 0–65 E.A.D.R.	98	95	92	99	97	97	97	96	95	94
0–	100	110	124	100	100	93	102	83	117	115
5–	93	107	114	111	116	137	142	126	121	142
15–	103	106	118	107	102	93	102	112	95	95
25–	92	94	91	103	104	111	108	111	105	105
35–	93	90	87	98	94	95	94	94	92	91
45–	98	92	90	98	99	98	96	96	96	93
55–	99	96	94	98	97	96	97	96	95	93
65–	107	116	113	98	99	95	96	94	92	93
75 and over ...	116	143	147	100	98	96	94	95	91	93

* The rates used for 1931–35 are first corrected by the conversion ratios appropriate to each age-group as derived from the dual tabulation for years 1936–39, and are given on page 135. The rates used for 1936–45 are those in Table LXXIV.

The crude death-rates at all ages continued to increase for each sex, but standardization to eliminate the effect of the progressive change in the age structure of the population modifies the trend very greatly. The civilian comparative mortality indices with 1938 as unit base were as follows :—

	1938	1939	1940	1941	1942	1943	1944	1945
Males ...	1·000	0·983	1·010	1·013	1·012	1·022	1·006	1·024
Females ...	1·000	0·984	0·985	0·969	0·964	0·961	0·941	0·937

The equivalent average death-rates (E.A.D.R.) at ages under 65 have an advantage over the C.M.I. in being free from effects of civilian selection, but they need to be considered along with the death-rates at ages over 65.

For **males** the E.A.D.R., which scarcely changed during 1921–35, maintained a level about three per cent. higher during 1940–44, and again increased in 1945. At ages 65–75 the death-rate did not change consistently between 1931 and 1945; and at 75 and over the average rate in 1942–45 was only two per cent. above that

in 1931–35, and was considerably lower than in 1936–41, when the peak level seems to have been reached. Comparing the averages of the three years 1943–45 with the rates in 1936–39 the percentage changes in male death-rates at the various ages were :—

0–	5–	15–	25–	35–	45–	55–	65–	75 and over
− 7	+ 21	− 3	− 4	+ 8	+ 8	+ 1	0	− 4

Increases continued to occur at ages 5–15 and 35–65, but at other ages cancer mortality of males has apparently ceased to rise.

For **females** the E.A.D.R. at ages under 65, which had been falling since 1911, continued to decrease throughout the war, the 1945 rate being six per cent. below that of 1931–39 and 12 per cent. below that of 1911–20. The death-rate at ages 65–75, which began to fall after 1921–30, and the rate at 75 and over which reached its peak in 1931–35, both continued to decline at about the same rate as the E.A.D.R. Comparing the averages of the three years 1943–45 with the rates of 1936–39, the percentage changes for females at the various ages were :—

0–	5–	15–	25–	35–	45–	55–	65–	75 and over
+ 5	+ 17	− 6	+ 4	− 6	− 4	− 4	− 5	− 7

Increases occurred amongst children, and at 25–34 a maximal level was apparently reached in 1941–43, but at all other ages mortality declined throughout the war.

The combined effect of the various trends in different groups, summed up in the C.M.I. for both sexes, was that the index rose from 0·853 in 1901–10 to 0·983 in 1921–30 and 0·999 in 1931–35 and then decreased to 0·998 in 1936–40 and 0·988 in 1941–45. On the whole, therefore, cancer mortality has now turned downwards, but amongst children and males between 35 and 55 it appears to be still increasing.

Table LXXVI gives the death-rates by sex and age in two periods 1940–42 and 1943–45 from sarcoma and allied forms, carcinoma and allied forms, and cancer undefined, and expresses the rates in 1940–45 as percentages of the corresponding rates in 1931–35. For the **sarcoma** group* the rates increased during the war period amongst males aged 15–35 and 55–75 and females aged

* In this group are included without enquiry :—

Chordoma, cylindroma, Ewing's tumour, gliosarcoma, Grawitz's tumour, hypernephroma, lymphocyteoma, lymphosarcoma, multiple myeloma, perithelioma, plasmoma, reticulosarcoma, reticular cancer, sarcoma, seminoma, Wilm's tumour. Also the following if prefixed by the word "malignant": angioma, chondroma, endotheliosis, epulis, fibroma, lipoma, lymphoma, meningioma, myoma, myxoma, neuroma, osteoma, psammoma, reticulosis, synovioma and mixed varieties of these. Enquiry is made regarding the following but in absence of further information or if said to be malignant they are included in this group : chloroma, endothelioma, melanoma, myeloma, nephroma.

0–15 and 45–65. Compared with ten years previously the 1940–45 rates were considerably lower at each age and for each sex. For the **carcinoma** group† the rates increased during the war amongst males aged 0–25 and 35–65 and females aged 15–35, but declined for other age-groups. Compared with ten years previously the 1940–45 rates show large relative increases amongst children, but at those ages carcinoma forms a small fraction of the total. Considerable increases also occurred amongst males between 15 and 45, and smaller increases amongst males over 45 and females aged 15–35, but women over 65 registered a decrease. For **undefined cancer** the rates fell during the war at ages over 25. Comparing 1940–45 rates with 1931–35, children's rates were trebled, but considerable decreases were registered at ages over 35.

Table LXXVI.—Cancer of all Sites : Death-rates by Sex and Age from Sarcoma, Carcinoma and "Cancer" undefined, 1940–42 and 1943–45. Mortality from those causes in 1940–45 per cent. of that in 1931–35.†

	Mean annual death-rate per million living*						Per cent. of 1931–35		
	Sarcoma		Carcinoma		Cancer undefined		Sarcoma	Carcinoma	Undefined
	1940–42	1943–45	1940–42	1943–45	1940–42	1943–45	1940–45	1940–45	1940–45
	MALES								
All ages ...	**67**	**69**	**1,485**	**1,561**	**106**	**105**	**90**	**122**	**80**
E.A.D.R. 0–65	60	61	941	961	68	63	83	109	75
0–	22	21	3	4	3	4	92	168	338
15–	26	28	18	19	3	4	94	146	110
25–	27	30	93	92	9	8	82	126	127
35–	51	48	398	413	32	27	81	122	92
45–	93	93	1,458	1,520	102	99	77	112	78
55–	161	166	4,147	4,199	290	268	84	106	70
65–	223	227	8,975	8,890	630	603	86	104	66
75 and over ...	235	220	13,072	12,690	938	843	83	106	66
	FEMALES								
All ages ...	**50**	**52**	**1,493**	**1,526**	**98**	**99**	**91**	**115**	**75**
E.A.D.R. 0–65	40	42	935	915	62	58	82	101	69
0–	16	18	4	4	3	3	93	208	302
15–	18	16	16	18	3	3	84	117	101
25–	22	19	126	132	12	9	91	112	103
35–	34	32	607	597	38	36	84	99	71
45–	60	68	1,809	1,739	113	112	75	101	67
55–	100	111	3,514	3,453	235	215	81	100	67
65–	157	148	6,358	6,116	402	391	87	97	60
75 and over ...	166	161	9,696	9,404	644	629	85	95	60

* *See* note under Table LXXIV.
† Gliomas are not shown in this table, but are dealt with separately in Table LXXXII.

† The carcinoma group includes defined forms not assignable to the glioma or sarcoma groups.

It is evident from this analysis that the increase in cancer mortality amongst children aged 0–15 has not been due to sarcoma but to other and undefined forms; and the increase amongst males aged 35–55 has occurred in the carcinoma group.

Cancer by Region and Class of Area.—Table LXXVII compares the proportionate mortality per 1,000 deaths from all non-violent causes at three age periods, 15–45, 45–65, 65 and over, in 1940–42 and 1943–45 within each large region and density aggregate. Owing to the lower death-rates from causes other than cancer in the second period these proportions were uniformly higher in 1943–45 than in 1940–42, and each line of figures must be considered independently.

Greater London in 1943–45 gave the highest proportionate figures for all the groups but was surpassed in 1940–42 by the East and remainder of the South East for females aged 15–45 and over 65, and by the East for males over 65. Wales gave the lowest figures for males of each age and for females aged 15–45, but for older women the North was lowest. The proportionate figures during the war period were greater for rural than urban areas in all groups except men over 65, but this does not mean that cancer death-rates were higher in rural than in urban areas, but arises from the fact that mortality gradients with increasing urbanisation are steeper for most other diseases than for cancer. This is shown by the estimated comparative mortality figures at the foot of the table.

The regional and urban-rural differences in cancer mortality, corrected as far as possible for the effects of differing age constitution of the respective populations and expressed for 1940–44 in Table LXXVII in the form of the C.M.F., can be compared with data for previous years by expressing the standardized death-rates in each year 1937–39 in terms of that for England and Wales (Tables LIX of 1937 Review, LIII and LIV of 1938–39).

	Males				Females			
	1937	1938	1939	1940–44	1937	1938	1939	1940–44
England and Wales	100	100	100	100	100	100	100	100
Greater London ...	109	107	107	115	99	96	102	107
Rest of South East	89	91	91	96	93	94	94	97
North	106	107	101	101	105	107	103	101
Midland	99	93	98	96	98	99	100	96
East	87	93	97	94	102	97	105	100
South West	90	85	90	91	94	99	98	96
Wales	94	99	93	92	108	105	102	97
County boroughs* ...	108	111	108	109	104	104	104	103
Other urban districts*	95	94	94	95	100	101	99	98
Rural districts* ...	85	82	87	85	95	96	97	93

*Excluding Greater London.

The county borough excess over rural areas for males was 24 per cent. of the national figure in 1940–44 compared with 23, 29, 21 in years 1937 to 1939; and for females it was 10, compared with 9, 8, 7. Mortality in London and the South East increased relatively to the national rate for each sex, whilst the Northern excess for both sexes and Welsh excess for females was no longer present during the war.

It must be again pointed out, however, that these differences for all sites combined are merely resultants of the very diverse effects of environment, occupation, diagnostic precision and treatment on mortality from cancer of different sites, and reference should be made to "Regional and Local Differences in Cancer Death Rates"(1) for a study of this question. Lung cancer mortality, for example, is greatly affected by urbanisation but has little relation with social differences, stomach cancer shows more dependence on the latter, and laryngeal cancer shows pronounced relations with both factors. The geographical distributions of cancer mortality within England and Wales also differ according to the organs affected (*see* Table LXXXI and pages 178–181 of this Review).

Table LXXVII.—Cancer of all Sites : Proportionate Mortality of Civilians at certain Ages by Sex in Regions and different classes of Area, 1940–42 and 1943–45.

Estimated Comparative Mortality Figures at all ages, 1940–44.

	England and Wales	Greater London	Remainder of South East	North	Midland	East	South West	Wales	County boroughs†	Other urban districts†	Rural districts†
Cancer deaths per 1,000 deaths from all non-violent causes.											
Males, 15–45											
1940–42	88·2	98·9	97·0	85·9	85·2	90·4	73·5	72·7	85·1	86·9	84·5
1943–45	106·8	120·1	111·2	101·1	108·6	115·0	102·6	87·2	101·1	103·4	110·8
Males, 45–65											
1940–42	191·1	213·3	202·9	177·9	190·3	211·3	185·9	172·8	180·5	185·4	200·0
1943–45	213·8	234·0	229·4	202·1	211·4	223·8	205·8	197·4	205·3	208·0	220·2
Males, 65–											
1940–42	143·0	152·9	147·8	135·4	144·8	155·9	139·3	130·5	141·2	140·8	140·7
1943–45	153·9	169·5	161·6	145·7	153·7	155·9	145·9	142·3	153·0	150·0	148·8
Females, 15–45											
1940–42	120·1	132·8	140·4	111·2	120·6	135·5	120·6	92·5	112·9	118·7	124·4
1943–45	137·3	155·9	148·8	127·9	141·0	153·4	147·3	97·9	129·2	134·9	139·8
Females, 45–65											
1940–42	275·7	303·5	297·3	255·1	269·9	295·3	289·1	262·2	263·2	270·9	281·2
1943–45	305·1	334·8	332·5	279·3	308·8	326·4	306·3	288·1	291·0	301·4	309·7
Females, 65–											
1940–42	128·0	132·7	134·7	121·4	128·3	135·4	127·7	122·3	122·7	128·6	130·9
1943–45	137·1	146·5	145·2	128·8	136·4	134·6	138·9	133·4	131·6	136·3	138·7
Comparative Mortality Figures at All Ages*											
Males											
1940–44	100	115	96	101	96	94	91	92	109	95	85
Females											
1940–44	100	107	97	101	96	100	96	97	103	98	93

* Estimated on the assumptions explained on pp. 24–27
† Excluding Greater London.

(1) Studies on Medical and Population Subjects No. 1. General Register Office, 1947. H.M.S.O. Price 1*s.* 0*d.*

Cancer by Site.—Tables LXXVIII and LXXIX analyse the deaths from cancer according to the site of the primary neoplasm when that was known, or according to the part of the body affected by the neoplasm considered to have caused death if the primary site cannot be ascertained. The sites distinguished are in greater detail than that provided by the international classification, and in addition to the rearrangement consequent upon the Fifth Revision of the List, distinction is made for the first time of other and undefined intestine from peritoneum, mesentery and omentum, of cervix and corpus uteri from other and undefined uterus, and of ethmoid and nose (internal) from other bones. Fuller details with regard to skin and some other sites are also available, though not tabulated. Every practicable effort continues to be made, with the co-operation of the certifying physicians and surgeons, to classify the deaths to the organs primarily affected. For certain organs, especially the liver and lung, which are often affected secondarily to such a degree that the symptoms dominate any that may arise from the primarily affected organ, it may not prove practicable to locate the primary neoplasm in the absence of an autopsy. The book of death certificates contains a note, however, requesting that the seat of primary occurrence should be stated " in all cases where known."

Tables LXXVIII (a) and (b) show the distribution of deaths, in 1940–42 and 1943–45 respectively, including those of non-civilians registered in England and Wales, according to site and histological type for each sex. Since the glioma group of neoplasms is confined to the nervous system and now has a special international number 54a, the deaths in that group are not given in the body of the table but stated in a note below. The other types are grouped under the general headings " sarcoma," " carcinoma " and " undefined cancer," and the percentages are based on the totals of those three groups throughout.

In each period the carcinoma group formed 90 per cent. of this total for males and 91 per cent. for females; sarcoma formed four per cent. for males and three per cent. for females, and undefined cancer formed six per cent. for each sex. The percentage of undefined cancer was highest for the brain and nervous system, adrenal glands and mediastinum. The percentage of sarcoma was highest for bones, kidney, peritoneum, nervous system, mediastinum and testis.

Table LXXIX gives the full detail of deaths, including those of non-civilians registered in England and Wales, for each site and sex in 15 age-groups in each year 1940 to 1945 separately.

Table LXXX shows the mean annual death-rates in 1940–44 and the rates in 1945 at ages 35–, 45–, 55–, 65–, 75 and over, and the E.A.D.R. at ages under 35, for 30 separate sites or groups of sites, with comparative rates for 1911–20, 1921–30, 1931–35 and 1936–39 for each site group except kidney and the nervous system, for which the record could only be carried back to 1931–35. In this table the rates for 1936–39 are derived from the dual tabulation for those years, and those of earlier periods have been adjusted by the appropriate conversion ratios obtained from that tabulation, making each series of rates comparable with those of 1940–44 and 1945. The study hitherto made of mortality trends for cancer sites by means of standardized rates at all ages combined was of limited value since it obscured great differences in the behaviour of rates at different periods of life, and these may be important in any attempt to elucidate the causes underlying the trends. A good example is furnished by the œsophagus, for which organ cancer mortality was for a long time falling amongst males between 45 and 65, and amongst females between 35 and 55, whilst still increasing at advanced ages.

Table LXXVIIIa.—Cancer of different Forms and Sites ; Deaths* from Carcinoma, Sarcoma and Undefined Cancer, and per cent. of all Cancers by Sex, 1940–1942.

		MALES						FEMALES					
		Number of deaths			Percentage of all cancers			Number of deaths			Percentage of all cancers		
		Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer
	All sites	**89,902**	**4,053**	**6,436**	**90**	**4**	**6**	**97,006**	**3,226**	**6,378**	**91**	**3**	**6**
45a	Lips	606	5	20	96	1	3	61	2	—	97	3	—
45b	Tongue	2,254	2	155	94	—	6	391	3	21	94	1	5
45c	Mouth	703	2	37	95	—	5	120	—	5	96	—	4
	Tonsil	534	42	34	87	7	6	73	30	12	64	26	10
	Pharynx	1,008	24	62	92	2	6	310	16	31	87	4	9
	Jaw	748	147	77	77	15	8	274	95	20	71	24	5
	Others (1)	529	10	26	93	2	5	106	5	12	86	4	10
	Total ...	6,382	232	411	91	3	6	1,335	151	101	84	10	6
46a	Œsophagus ...	4,498	2	299	94	—	6	1,906	3	153	93	—	7
46b	Stomach	20,778	17	1,123	95	—	5	16,348	13	893	95	—	5
	Duodenum ...	129	2	19	86	1	13	106	—	12	90	—	10
	Other small intestine	155	35	13	77	17	6	173	19	16	83	9	8
	Cæcum	860	5	32	95	1	4	1,199	5	70	95	—	5
	Hepatic flexure, Splenic flexure	418	1	28	94	—	6	443	—	21	95	—	5
46c	Sigmoid flexure ...	2,157	1	99	96	—	4	2,316	3	97	96	—	4
	Large intestine (colon)	8,801	9	442	95	—	5	11,219	11	566	95	—	5
	Other and undefined intestine ...	228	11	49	79	4	17	275	7	68	79	2	19
46d	Rectum (not anus)	10,365	4	562	95	—	5	6,682	7	312	96	—	4
	Liver	2,581	34	308	88	1	11	2,803	24	302	89	1	10
46e	Gall bladder and ducts	703	—	64	92	—	8	1,528	—	118	93	—	7
46f	Pancreas	3,267	5	187	95	—	5	2,884	6	148	95	—	5
46g	Peritoneum, mesentery, others ...	199	250	44	40	51	9	364	239	53	56	36	8
46h	Other and unspecified digestive organs	—	—	—	—	—	—	1	—	—	100	—	—
	Total ...	55,139	376	3,269	93	1	6	48,247	337	2,829	93	1	6
47a	Larynx, trachea ...	2,491	3	163	94	—	6	755	3	43	95	—	5
47b	Lung, bronchus, pleura	11,302	203	802	91	2	7	2,877	74	265	90	2	8
	Mediastinum ...	460	246	232	49	26	25	202	107	78	52	28	20
47c	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—
	Total ...	14,253	452	1,197	89	3	8	3,834	184	386	87	4	9
48a	Cervix uteri ...	—	—	—	—	—	—	5,482	3	162	97	—	3
48b	Corpus uteri ...	—	—	—	—	—	—	721	7	33	95	1	4
	Other and undefined uterus	—	—	—	—	—	—	6,416	173	510	91	2	7
	Total ...	—	—	—	—	—	—	12,619	183	705	94	1	5
49	Ovary and fallopian tube	—	—	—	—	—	—	4,952	76	499	90	1	9
	Vulva and vagina...	—	—	—	—	—	—	1,281	30	48	94	2	4
	Other female genital organs	—	—	—	—	—	—	15	1	3	79	5	16
	Total ...	—	—	—	—	—	—	6,248	107	550	90	2	8
50	Breast	163	8	11	90	4	6	20,049	58	1,114	95	—	5
51a	Scrotum	155	3	6	94	2	4	—	—	—	—	—	—
51b	Prostate	6,055	19	593	91	—	9	—	—	—	—	—	—
51c	Testis	339	147	44	64	28	8	—	—	—	—	—	—
	Penis	457	5	24	94	1	5	—	—	—	—	—	—
	Others	3	—	—	100	—	—	—	—	—	—	—	—
	Total ...	7,009	174	667	89	2	9	—	—	—	—	—	—
52	Kidney	409	606	93	37	55	8	312	452	92	36	53	11
	Bladder, urethra, ureter	3,360	17	219	94	—	6	1,557	6	93	94	—	6
	Total ...	3,769	623	312	80	13	7	1,869	458	185	75	18	7

Table LXXVIIIa.—(*contd*)

		MALES						FEMALES					
		Number of deaths			Percentage of all cancers			Number of deaths			Percentage of all cancers		
		Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer
53	Skin (not scrotum)	1,531	163	40	89	9	2	1,058	237	27	80	18	2
54b, c	Brain, meninges	70	76	149	24	26	50	39	53	123	18	25	57
	Other nervous system (2) ...	15	44	13	21	61	18	5	39	7	10	76	14
	Total ...	85	120	162	23	33	44	44	92	130	17	34	49
55a	Adrenal glands ...	56	14	19	63	16	21	45	14	15	61	19	20
55b, d:1	Ethmoid, nose ...	179	18	16	84	8	8	142	20	15	81	11	8
	Other bone (not jaw)	282	947	76	22	72	6	274	756	64	25	69	6
55c	Thyroid gland ...	202	6	24	87	3	10	522	14	87	84	2	14
55d:2	Other and unspecified (3)	852	920	232	43	45	12	720	615	170	48	41	11
	Total ...	1,571	1,905	367	41	49	10	1,703	1,419	351	49	41	10

* Including deaths of non-civilians registered in England and Wales.
(1) Including palate, cheek (internal surface). Salivary glands, gums.
(2) Includes retina and optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(3) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

There were in addition the following numbers of deaths from glioma, comprising the varieties specified in No. 54a, Manual of International List, 1940, which are not included in the table :—
Males, 937. Females 630

Table LXXVIIIb.—Cancer of different Forms and Sites ; Deaths* from Carcinoma, Sarcoma and Undefined Cancer, and per cent. of all Cancers by Sex, 1943–1945.

		MALES						FEMALES					
		Number of deaths			Percentage of all cancers			Number of deaths			Percentage of all cancers		
		Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer
	All sites	**95,685**	**4,229**	**6,424**	**90**	**4**	**6**	**100,589**	**3,420**	**6,504**	**91**	**3**	**6**
45a	Lips	585	1	21	97	—	3	59	4	3	89	6	5
45b	Tongue	2,018	4	131	94	—	6	433	1	34	93	—	7
45c	Mouth	668	2	43	94	—	6	128	1	10	92	1	7
	Tonsil	474	51	34	85	9	6	93	37	9	67	27	6
	Pharynx	937	37	57	90	4	6	303	24	17	88	7	5
	Jaw	584	121	54	77	16	7	235	72	18	72	22	6
	Others (1)	517	11	27	93	2	5	114	5	11	88	4	8
	Total ...	5,783	227	367	90	4	6	1,365	144	102	85	9	6
46a	Œsophagus ...	4,285	6	242	95	—	5	2,097	—	136	94	—	6
46b	Stomach	21,007	27	1,112	95	—	5	16,493	23	877	95	—	5
	Duodenum ...	124	1	16	88	1	11	94	—	5	95	—	5
46c	Other small intestine	166	35	15	77	16	7	195	23	15	84	10	6
	Cæcum	898	6	43	94	1	5	1,265	4	57	96	—	4
	Hepatic flexure, Splenic flexure	413	1	16	96	—	4	480	—	29	94	—	6
	Sigmoid flexure ...	2,370	—	97	96	—	4	2,387	1	113	95	—	5
	Large intestine (colon)	9,348	10	459	95	—	5	11,791	9	605	95	—	5
	Other and undefined intestine ...	138	14	28	76	8	16	199	13	54	75	5	20
46d	Rectum (not anus)	10,925	14	534	95	—	5	6,925	10	352	95	—	5
46e	Liver	2,731	24	335	88	1	11	2,715	13	317	90	—	10
	Gall bladder and ducts	795	—	62	93	—	7	1,585	1	105	94	—	6
46f	Pancreas	3,562	2	159	96	—	4	3,084	3	169	95	—	5
46g	Peritoneum, mesentery, others ...	170	234	22	40	55	5	379	199	58	60	31	9
46h	Other and unspecified digestive organs	—	—	1	—	—	100	3	—	—	100	—	—
	Total ...	56,932	374	3,141	94	1	5	49,692	299	2,892	94	1	5

Table LXXVIIIb.—(*contd.*)

		MALES						FEMALES					
		Number of deaths			Percentage of all cancers			Number of deaths			Percentage of all cancers		
		Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer	Carcinoma	Sarcoma	Undefined cancer
47a	Larynx, trachea ...	2,396	4	117	95	—	5	812	3	35	96	—	4
47b	Lung, bronchus pleura	15,204	199	1,007	93	1	6	3,423	75	257	91	2	7
	Mediastinum ...	403	232	256	45	26	29	152	118	111	40	31	29
47c	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—
	Total ...	18,003	435	1,380	91	2	7	4,387	196	403	88	4	8
48a	Cervix uteri ...	—	—	—	—	—	—	5,372	6	152	97	—	3
48b	Corpus uteri ...	—	—	—	—	—	—	869	6	24	96	1	3
	Other and undefined uterus	—	—	—	—	—	—	6,156	219	457	90	3	7
	Total ...	—	—	—	—	—	—	12,397	231	633	93	2	5
49	Ovary and fallopian tube	—	—	—	—	—	—	5,529	96	566	89	2	9
	Vulva and vagina...	—	—	—	—	—	—	1,295	21	36	95	2	3
	Other female genital organs	—	—	—	—	—	—	22	6	1	76	21	3
	Total ...	—	—	—	—	—	—	6,846	123	603	90	2	8
50	Breast	202	4	15	91	2	7	20,720	54	1,151	95	—	5
51a	Scrotum	117	1	6	94	1	5	—	—	—	—	—	—
51b	Prostate	6,422	10	520	93	—	7	—	—	—	—	—	—
51c	Testis	322	137	42	65	27	8	—	—	—	—	—	—
	Penis	420	—	19	96	—	4	—	—	—	—	—	—
	Others	1	1	—	50	50	—	—	—	—	—	—	—
	Total ...	7,282	149	587	91	2	7	—	—	—	—	—	—
52	Kidney	508	663	85	40	53	7	393	512	79	40	52	8
	Bladder, urethra, ureter	3,711	17	182	95	—	5	1,680	14	93	94	1	5
	Total ...	4,219	680	267	82	13	5	2,073	526	172	75	19	6
53	Skin (not scrotum)	1,511	239	43	85	13	2	1,108	277	32	78	20	2
54b,c	Brain, meninges ...	42	53	240	13	16	71	53	32	176	20	12	68
	Other nervous system (2) ...	12	44	13	17	64	19	10	29	12	20	56	24
	Total ...	54	97	253	13	24	63	63	61	188	20	20	60
55a	Adrenal glands ...	53	22	21	55	23	22	47	23	10	59	29	12
55b, d:1	Ethmoid, nose ...	264	34	17	84	11	5	229	31	19	82	11	7
	Other bone (not jaw)	231	965	77	18	76	6	256	751	61	24	70	6
55c	Thyroid gland ...	206	4	25	87	2	11	573	12	54	90	2	8
55d:2	Other and unspecified (3)	945	999	231	43	46	11	833	692	184	49	40	11
	Total ...	1,699	2,024	371	42	49	9	1,938	1,509	328	51	40	9

* Including deaths of non-civilians registered in England and Wales.
(1) Including palate, cheek (internal surface). Salivary glands, gums.
(2) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(3) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

There were in addition the following numbers of deaths from glioma, comprising the varieties specified in No. 54a, Manual of International List, 1940, which are not included in the table :—
Males, 1,002. Females, 703.

Table LXXIXa.—Cancer of different Forms and Sites : Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1940.

		All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
		DEATHS OF MALES															
All sites		**33,317**	**72**	**84**	**181**	**448**	**527**	**953**	**1,536**	**2,519**	**3,808**	**5,389**	**6,194**	**5,588**	**3,843**	**1,669**	**506**
Carcinoma		29,602	6	10	60	289	395	788	1,308	2,195	3,427	4,848	5,626	5,135	3,530	1,522	463
Lymphosarcoma, reticulosarcoma	}	1,355	47	48	98	99	68	66	101	123	132	184	193	102	64	23	7
Other sarcoma	}																
Glioma		290	10	24	16	32	29	29	38	37	40	24	9	2	—	—	—
Cancer undefined		2,070	9	2	7	28	35	70	89	164	209	333	366	349	249	124	36
45a. Lips		196	1	—	—	—	—	2	1	5	13	22	24	42	44	30	12
45b. Tongue		863	—	—	—	1	1	8	11	37	61	145	211	198	128	45	17
45c. Mouth		255	—	—	—	1	1	1	6	9	15	45	55	51	46	15	10
45c. Tonsil		212	—	2	3	3	1	7	4	9	20	26	39	53	29	11	5
45c. Pharynx		359	—	1	3	1	5	6	15	18	40	56	76	79	41	12	6
45c. Jaw, sarcoma		57	2	—	1	3	2	—	1	3	4	7	15	8	8	2	1
45c. Jaw, other		329	—	1	2	2	2	10	10	20	31	70	61	59	38	16	7
45c. Others (1)		184	—	1	—	—	2	2	5	6	16	31	34	38	38	11	—
Total		2,455	3	5	9	11	14	36	53	107	200	402	515	528	372	142	58
46a. Œsophagus		1,637	—	—	1	8	8	18	22	79	200	291	397	335	175	87	16
46b. Stomach		7,439	—	1	5	60	113	218	375	642	899	1,271	1,404	1,198	848	325	80
46b. Duodenum		49	—	—	—	—	—	2	3	7	7	5	11	6	5	2	1
46c. Other small intestine		74	—	—	1	4	3	3	5	3	13	8	7	12	9	6	—
46c. Cæcum		294	1	1	4	2	6	10	15	22	35	40	45	47	41	20	5
46c. Hepatic flexure	}	155	—	—	2	2	—	6	5	14	16	24	27	30	16	11	2
46c. Splenic flexure	}																
46c. Sigmoid flexure		734	—	—	—	14	15	12	26	37	68	105	148	144	101	45	19
46c. Large intestine (colon)		3,110	—	—	11	25	32	62	86	171	295	451	602	627	488	184	76
46c. Other and undefined intestine		120	1	—	1	3	—	4	5	12	6	14	24	17	18	10	5
46d. Rectum (not anus)		3,550	—	—	11	43	36	67	132	190	367	551	743	695	439	223	53
46e. Liver		966	4	3	—	6	12	20	41	66	118	126	192	184	123	58	13
46e. Gall bladder and ducts		269	—	—	—	1	4	4	6	14	22	50	49	51	47	17	4
46f. Pancreas		1,123	—	—	—	7	10	34	41	121	138	183	226	174	122	55	12
46g. Peritoneum, mesentery, others		164	5	5	7	17	14	6	10	17	16	28	19	14	6	—	—
46h. Other and unspecified digestive organs		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total		19,684	11	10	43	192	253	466	772	1,395	2,200	3,147	3,894	3,534	2,438	1,043	286

47a.	Larynx, trachea	901	—	—	—	—	5	18	44	65	118	159	181	166	103	36	6
47b.	Lung, bronchus, pleura	3,772	1	1	12	71	118	246	380	551	703	713	493	302	133	37	11
	Mediastinum	315	3	4	8	11	8	14	31	41	48	61	38	31	10	6	1
47c.	Other and unspecified respiratory organs...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	4,988	4	5	20	82	131	278	455	657	869	933	712	499	246	79	18
50.	Breast	58	—	—	—	1	1	2	2	3	4	14	10	8	10	3	—
51a.	Scrotum	54	—	—	—	—	2	2	1	4	4	9	13	6	10	3	—
51b.	Prostate	2,085	—	1	1	4	4	4	14	43	130	299	451	519	383	173	59
51c.	Testis	174	1	3	15	40	20	18	15	10	7	16	11	8	4	4	2
	Penis	141	—	—	—	4	2	6	7	8	7	19	19	21	27	19	2
	Others	3	—	—	—	—	—	1	—	—	—	—	—	1	1	—	—
	Total	2,457	1	4	16	48	28	31	37	65	148	343	494	555	425	199	63
52.	Kidney	336	18	4	3	5	9	13	27	32	42	70	53	37	13	8	2
	Bladder, urethra, ureter	1,118	1	1	1	6	10	24	41	62	130	202	215	199	143	64	19
	Total	1,454	19	5	4	11	19	37	68	94	172	272	268	236	156	72	21
53.	Skin (not scrotum)	581	1	1	3	8	3	11	24	36	38	66	77	81	104	79	49
54a.	Glioma of brain and nervous system (2)	290	10	24	16	32	29	29	38	37	40	24	9	2	—	—	—
54b, c.	Other cancer of brain and meninges ...	95	4	6	6	7	4	14	12	18	16	3	3	2	—	—	—
	Other cancer of other nervous system (3)	24	1	2	3	1	3	2	1	—	3	2	4	2	—	—	—
	Total	409	15	32	25	40	36	45	51	55	59	29	16	6	—	—	—
55a.	Adrenal glands	31	8	—	—	—	1	4	4	4	1	2	5	1	1	—	—
55b,d: 1.	Ethmoid, nose	37	—	—	1	—	1	2	1	7	7	3	3	3	5	3	1
	Other bone (not jaw)	436	5	10	41	23	11	17	29	38	49	62	70	42	22	13	4
55c.	Thyroid gland	70	—	—	—	1	3	3	8	5	8	12	15	5	6	4	—
55d: 2.	Other and unspecified (4)	657	5	12	19	31	26	21	32	53	53	104	115	90	58	32	6
	Total	1,231	18	22	61	55	42	47	74	107	118	183	208	141	92	52	11

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXb.—Cancer of different Forms and Sites: Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1941.

		All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
		DEATHS OF MALES															
All sites		**33,735**	**88**	**84**	**163**	**525**	**590**	**957**	**1,514**	**2,536**	**3,950**	**5,241**	**6,380**	**5,680**	**3,820**	**1,670**	**537**
Carcinoma		29,899	5	7	44	365	443	787	1,288	2,218	3,527	4,709	5,800	5,182	3,505	1,531	488
Lymphosarcoma, reticulosarcoma		1,391	58	52	95	98	87	87	102	110	157	170	157	121	62	25	10
Other sarcoma																	
Glioma		306	20	16	16	36	24	36	39	51	26	31	7	3	1	—	—
Cancer undefined		2,139	5	9	8	26	36	47	85	157	240	331	416	374	252	114	39
45a.	Lips	214	—	—	—	—	1	1	2	7	9	25	40	49	42	23	15
45b.	Tongue	764	—	—	—	—	2	6	14	34	70	125	195	163	104	40	11
45c.	Mouth	235	—	—	—	—	—	2	2	9	22	36	54	44	41	17	8
	Tonsil	207	—	2	1	1	1	4	7	5	23	32	48	38	29	15	1
	Pharynx	350	1	1	—	4	5	8	10	20	31	54	73	68	46	24	5
	Jaw, sarcoma	50	1	—	2	3	—	2	2	2	6	5	12	6	4	2	3
	Jaw, other	262	—	—	—	3	2	5	4	15	24	32	64	57	37	15	4
	Others (1)	217	—	1	—	—	1	3	2	7	20	28	44	45	48	12	6
	Total	2,299	2	4	3	11	12	31	43	99	205	337	530	470	351	148	53
46a.	Œsophagus	1,572	—	—	—	7	7	14	24	68	157	264	370	341	212	90	18
46b.	Stomach	7,336	—	3	2	77	124	218	340	626	943	1,213	1,421	1,231	734	322	82
	Duodenum	55	—	—	—	2	2	2	3	3	10	5	10	8	7	1	2
46c.	Other small intestine	57	—	—	1	3	5	—	2	3	6	9	12	7	5	3	1
	Cæcum	284	—	—	—	6	5	10	7	22	29	40	53	46	44	17	5
	Hepatic flexure																
	Splenic flexure	149	—	—	1	3	4	4	6	14	19	24	26	16	23	6	3
	Sigmoid flexure	743	—	—	1	9	5	14	27	48	75	115	152	153	90	41	13
	Large intestine (colon)	3,094	—	1	4	31	24	69	83	155	284	438	628	624	462	227	64
	Other and undefined intestine	76	1	1	—	3	2	2	2	1	11	12	9	17	9	5	1
46d.	Rectum (not anus)	3,664	1	—	14	51	56	75	121	187	363	578	782	700	480	193	63
46e.	Liver	971	—	2	—	13	13	23	40	69	120	155	185	158	129	46	18
	Gall bladder and ducts	228	—	—	—	1	—	3	2	13	24	34	55	43	35	13	5
46f.	Pancreas	1,174	—	—	1	11	14	26	73	82	168	163	227	190	135	63	21
46g.	Peritoneum, mesentery, others	174	8	4	4	11	11	6	16	15	14	26	16	27	12	3	1
46h.	Other and unspecified digestive organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	19,577	10	11	28	228	272	466	746	1,306	2,223	3,076	3,946	3,561	2,377	1,030	297

47a.	Larynx, trachea	914	1	—	—	4	3	16	24	68	108	145	194	202	98	41	10
47b.	Lung, bronchus, pleura	4,027	—	2	10	95	129	238	376	626	795	766	550	275	125	30	10
	Mediastinum	309	—	3	15	11	15	18	22	33	46	53	44	25	17	6	1
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	5,250	1	5	25	110	147	272	422	727	949	964	788	502	240	77	21
50.	Breast	64	—	—	—	1	2	—	2	9	7	7	9	11	7	6	3
51a.	Scrotum	54	—	—	—	1	1	1	—	5	5	9	13	11	5	2	1
51b.	Prostate	2,190	1	—	1	2	2	2	26	46	129	299	454	533	434	197	64
51c.	Testis	170	—	—	13	36	31	16	17	11	7	8	13	12	3	1	2
	Penis	182	—	—	—	—	3	2	7	10	12	25	24	42	34	14	9
	Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	2,596	1	—	14	39	37	21	50	72	153	341	504	598	476	214	76
52.	Kidney	411	27	12	3	8	8	22	36	37	73	61	64	32	18	8	2
	Bladder, urethra, ureter	1,206	—	1	1	8	14	21	50	92	132	176	243	220	150	77	21
	Total	1,617	27	13	4	16	22	43	86	129	205	237	307	252	168	85	23
53.	Skin (not scrotum)	601	2	2	2	10	10	12	24	29	42	50	94	104	93	80	47
54a.	Glioma of brain and nervous system (2)	306	20	16	16	36	24	36	39	51	26	31	7	3	1	—	—
54b, c.	Other cancer of brain and meninges	106	5	5	4	10	12	11	10	18	16	8	6	1	—	—	—
	Other cancer of other nervous system (3)	31	4	4	—	—	6	5	2	4	1	1	2	2	—	—	—
	Total	443	29	25	20	46	42	52	51	73	43	40	15	6	1	—	—
55a.	Adrenal glands	26	1	—	3	1	1	1	—	5	3	3	5	2	—	—	1
55b,d:1.	Ethmoid, nose	76	—	1	2	1	—	4	5	7	7	15	11	11	9	1	2
	Other bone (not jaw)	439	5	15	43	31	25	22	25	28	42	55	52	53	28	10	5
55c.	Thyroid gland	77	—	—	—	4	1	1	8	8	8	15	13	13	2	2	2
55d:2.	Other and unspecified (4)	670	10	8	19	27	19	32	52	44	63	101	106	97	68	17	7
	Total	1,288	16	24	67	64	46	60	90	92	123	189	187	176	107	30	17

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXc.—Cancer of different Forms and Sites : Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1942.

		All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
		DEATHS OF MALES															
All sites		**34,276**	**61**	**84**	**172**	**432**	**590**	**1,001**	**1,613**	**2,524**	**3,856**	**5,294**	**6,577**	**5,952**	**3,912**	**1,661**	**547**
Carcinoma		30,401	4	6	56	287	443	816	1,363	2,201	3,394	4,764	5,987	5,452	3,608	1,525	495
Lymphosarcoma, reticulosarcoma		1,307	38	46	81	87	78	73	109	122	147	167	145	105	69	28	12
Other sarcoma																	
Glioma		341	15	22	24	26	33	44	36	55	39	28	15	4	—	—	—
Cancer undefined		2,227	4	10	11	32	36	68	105	146	276	335	430	391	235	108	40
45a.	Lips	221	—	—	—	1	2	—	2	5	12	18	34	55	41	44	7
45b.	Tongue	784	—	—	—	3	3	4	12	25	64	118	179	198	125	36	17
45c.	Mouth	252	—	—	—	1	—	2	4	11	14	36	70	51	40	19	4
	Tonsil	191	—	1	—	—	2	2	3	11	17	29	45	36	24	15	6
	Pharynx	385	—	3	4	4	—	8	7	23	32	70	78	79	53	13	11
	Jaw, sarcoma	40	1	1	1	2	1	1	—	2	4	9	5	5	5	1	2
	Jaw, other	234	—	—	—	1	1	2	3	7	15	35	56	49	33	23	9
	Others (1)	164	—	—	—	2	1	1	2	5	11	19	40	39	20	20	4
	Total	2,271	1	5	5	14	10	20	33	89	169	334	507	512	341	171	60
46a.	Œsophagus	1,590	—	—	—	9	9	17	27	68	158	239	387	331	231	91	23
46b.	Stomach	7,143	—	—	6	48	119	230	397	616	854	1,210	1,377	1,213	724	271	78
	Duodenum	46	—	—	—	—	—	—	3	2	4	8	15	7	6	1	—
46c.	Other small intestine	72	—	1	1	3	3	5	7	2	9	11	14	8	5	3	—
	Cæcum	319	—	—	—	6	4	12	16	22	32	40	67	57	39	20	4
	Hepatic flexure																
	Splenic flexure	143	—	—	1	4	2	5	10	12	9	20	29	22	21	6	2
	Sigmoid flexure	780	—	—	1	4	8	17	23	39	75	125	171	155	104	45	13
	Large intestine (colon)	3,048	—	—	7	23	38	60	88	167	271	409	569	655	468	232	61
	Other and undefined intestine	92	—	1	—	4	2	2	5	5	7	9	21	13	15	4	4
46d.	Rectum (not anus)	3,717	—	—	8	38	47	70	93	189	349	562	806	788	500	200	67
46e.	Liver	986	—	—	1	11	6	25	30	81	96	151	194	184	132	57	18
	Gall bladder and ducts	270	—	—	—	2	2	5	15	15	22	38	53	51	42	19	6
46f.	Pancreas	1,162	—	—	4	8	20	36	58	95	146	176	209	208	132	49	21
46g.	Peritoneum, mesentery, others	155	6	5	8	7	9	7	7	10	23	19	30	10	8	3	3
46h.	Other and unspecified digestive organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	19,523	6	7	37	167	269	491	779	1,323	2,055	3,017	3,942	3,702	2,427	1,001	300

47a.	Larynx, trachea	842	—	—	1	4	5	10	23	48	101	157	190	174	78	41	10
47b.	Lung, bronchus, pleura	4,508	1	—	11	75	145	278	450	622	863	866	634	340	164	46	13
	Mediastinum	314	—	3	10	13	13	19	31	36	49	44	40	32	18	5	1
47c.	Other and unspecified respiratory organs...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	5,664	1	3	22	92	163	307	504	706	1,013	1,067	864	546	260	92	24
50.	Breast	60	—	—	—	—	—	—	6	5	8	4	11	19	4	3	—
51a.	Scrotum	56	—	—	—	1	1	2	1	1	7	11	9	10	9	4	—
51b.	Prostate	2,392	1	—	—	1	2	5	20	48	143	299	570	609	443	193	58
	Testis	186	1	2	15	44	27	19	14	13	4	14	13	11	5	2	2
51c.	Penis	163	—	—	—	3	—	1	8	7	10	15	29	33	31	16	10
	Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	2,797	2	2	15	49	30	27	43	69	164	339	621	663	488	215	70
52.	Kidney	361	19	5	2	10	10	16	33	34	49	62	51	42	17	9	2
	Bladder, urethra, ureter	1,272	3	—	—	4	14	22	51	96	145	214	238	209	180	72	24
	Total	1,633	22	5	2	14	24	38	84	130	194	276	289	251	197	81	26
53.	Skin (not scrotum)	552	—	—	2	11	10	8	17	21	45	52	84	102	100	58	42
54a.	Glioma of brain and nervous system (2)...	341	15	22	24	26	33	44	36	55	39	28	15	4	—	—	—
54b, c.	Other cancer of brain and meninges ...	94	2	6	3	10	4	7	17	15	16	11	2	1	—	—	—
	Other cancer of other nervous system (3)	17	1	—	1	—	1	—	3	3	4	—	3	1	—	—	—
	Total	452	18	28	28	36	38	51	56	73	59	39	20	6	—	—	—
55a.	Adrenal glands	32	6	1	1	—	1	3	4	4	4	—	5	—	3	—	—
55b, d: 1.	Ethmoid, nose	100	—	1	1	2	—	3	9	10	13	17	22	11	8	2	1
	Other bone (not jaw)	430	3	18	37	24	15	16	35	38	45	54	71	40	23	6	5
55c.	Thyroid gland	85	—	1	1	—	6	6	6	6	7	11	15	14	6	4	2
55d: 2.	Other and unspecified (4)	677	2	13	21	23	24	31	37	50	80	84	126	86	55	28	17
	Total	1,324	11	34	61	49	46	59	91	108	149	166	239	151	95	40	25

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXd.—Cancer of different Forms and Sites: Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1943.

		All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
		DEATHS OF MALES															
	All sites	**35,277**	**76**	**87**	**178**	**436**	**574**	**1,042**	**1,613**	**2,624**	**3,903**	**5,300**	**6,631**	**6,111**	**4,267**	**1,841**	**594**
	Carcinoma	31,325	8	4	57	284	447	861	1,356	2,283	3,493	4,763	6,018	5,576	3,953	1,679	543
	Lymphosarcoma, reticulosarcoma	1,400	43	47	94	89	65	88	111	138	153	171	168	129	58	34	12
	Other sarcoma																
	Glioma	326	17	26	15	36	34	31	35	44	32	30	16	8	2	—	—
	Cancer undefined	2,226	8	10	12	27	28	62	111	159	225	336	429	398	254	128	39
45a.	Lips	219	—	—	—	—	1	4	4	5	7	24	38	41	37	39	19
45b.	Tongue	737	—	—	—	1	1	3	11	15	50	110	172	165	121	58	30
45c.	Mouth	250	—	—	—	—	—	1	5	5	13	32	57	65	38	25	9
	Tonsil	185	—	—	—	3	3	3	2	7	15	30	46	37	27	7	5
	Pharynx	357	2	1	2	1	7	10	10	25	28	60	69	74	46	20	2
	Jaw, sarcoma	41	—	2	1	3	—	1	1	4	2	5	4	9	3	4	2
	Jaw, other	204	—	—	1	1	3	1	3	7	13	23	50	45	37	9	11
	Others (1)	203	—	—	1	2	—	1	6	9	7	28	39	46	44	15	5
	Total	2,196	2	3	5	11	15	24	42	77	135	312	475	482	353	177	83
46a.	Œsophagus	1,514	—	—	1	8	12	24	23	82	134	230	370	310	206	96	18
46b.	Stomach	7,083	1	—	9	58	101	239	348	615	866	1,143	1,349	1,198	771	305	80
	Duodenum	53	—	—	—	1	1	1	4	5	7	12	10	8	3	1	—
	Other small intestine	71	1	1	1	2	—	8	3	8	12	8	12	6	5	3	1
	Cæcum	317	—	1	2	5	7	6	16	18	33	50	61	60	36	17	5
46c.	Hepatic flexure, Splenic flexure	148	—	—	—	1	2	5	5	7	17	21	26	31	20	10	3
	Sigmoid flexure	867	—	—	2	7	15	14	29	44	90	135	184	162	125	46	14
	Large intestine (colon)	3,201	1	1	5	19	36	74	97	151	302	409	631	669	511	224	71
	Other and undefined intestine	61	—	—	—	—	1	1	2	—	7	6	15	13	12	4	—
46d.	Rectum (not anus)	3,791	—	—	7	37	44	70	104	194	377	518	807	797	551	219	66
46e.	Liver	1,083	4	1	1	5	17	33	43	70	98	162	223	194	149	61	22
	Gall bladder and ducts	295	1	—	—	5	4	3	16	15	30	47	53	52	43	22	4
46f.	Pancreas	1,212	—	—	1	11	22	31	48	91	149	185	235	211	137	66	25
46g.	Peritoneum, mesentery, others	141	5	4	5	8	6	8	11	14	15	22	21	17	1	3	1
46h.	Other and unspecified digestive organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	19,837	13	8	34	167	268	517	749	1,314	2,137	2,948	3,997	3,728	2,570	1,077	310

47a.	Larynx, trachea	862	—	—	1	6	6	9	37	51	85	146	163	169	130	52	7
47b.	Lung, bronchus, pleura	5,031	—	2	13	81	129	279	480	715	902	971	747	441	214	47	10
	Mediastinum	310	—	4	8	12	11	15	23	41	36	55	45	25	20	14	1
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	6,203	—	6	22	99	146	303	540	807	1,023	1,172	955	635	364	113	18
50.	Breast	91	—	—	—	1	2	4	7	9	8	10	20	14	9	3	4
51a.	Scrotum	50	—	—	—	1	—	2	2	1	2	8	8	12	6	6	2
51b.	Prostate	2,387	—	—	1	1	5	9	17	44	142	250	481	598	533	243	63
51c.	Testis	156	—	—	15	32	24	14	12	15	9	4	8	12	4	7	—
	Penis	153	—	—	—	3	2	3	3	12	12	20	28	36	21	11	2
	Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	2,746	—	—	16	37	31	28	34	72	165	282	525	658	564	267	67
52.	Kidney	424	22	6	2	12	4	13	33	44	55	64	81	53	24	9	2
	Bladder, urethra, ureter	1,329	1	—	1	4	8	26	54	93	135	222	248	259	183	66	29
	Total	1,753	23	6	3	16	12	39	87	137	190	286	329	312	207	75	31
53.	Skin (not scrotum)	632	1	1	5	11	10	14	20	20	44	62	92	109	105	74	64
54a.	Glioma of brain and nervous system (2)	326	17	26	15	36	34	31	35	44	32	30	16	8	2	—	—
54b, c.	Other cancer of brain and meninges	112	1	7	6	10	9	14	16	15	14	7	10	1	2	—	—
	Other cancer of other nervous system (3)	22	—	2	2	—	4	3	1	—	2	1	3	1	2	—	1
	Total	460	18	35	23	46	47	48	52	59	48	38	29	10	6	—	1
55a.	Adrenal glands	38	7	1	—	1	2	2	5	2	5	3	5	1	3	1	—
55b, d: 1.	Ethmoid, nose	98	—	—	—	3	5	2	7	6	16	17	16	11	5	6	4
	Other bone (not jaw)	462	7	17	53	19	17	25	29	43	49	48	60	55	21	15	4
55c.	Thyroid gland	69	—	—	1	—	—	—	2	8	11	11	14	12	8	—	2
55d: 2.	Other and unspecified (4)	692	5	10	16	25	19	36	39	70	72	111	114	84	52	33	6
	Total	1,359	19	28	70	48	43	65	82	129	153	190	209	163	89	55	16

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXe.—Cancer of different Forms and Sites: Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1944.

	All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
DEATHS OF MALES																
All sites	**35,287**	**57**	**90**	**196**	**416**	**574**	**1,101**	**1,681**	**2,593**	**3,934**	**5,323**	**6,548**	**6,064**	**4,262**	**1,811**	**637**
Carcinoma	31,488	6	8	57	271	470	919	1,455	2,272	3,537	4,822	5,960	5,566	3,920	1,644	581
Lymphosarcoma, reticulosarcoma	1,373	40	53	100	100	59	82	91	132	145	168	187	116	58	32	10
Other sarcoma	312	9	18	23	22	21	44	41	47	40	28	12	4	1	2	—
Glioma	2,114	2	11	16	23	24	56	94	142	212	305	389	378	283	133	46
Cancer undefined																
45a. Lips	207	—	—	1	—	1	2	1	7	10	15	32	56	40	26	16
45b. Tongue	758	—	—	1	1	2	2	15	29	44	119	173	198	115	37	22
45c. Mouth	217	—	—	—	—	1	—	4	7	14	31	45	50	43	16	6
45c. Tonsil	198	—	—	2	—	2	1	9	5	13	27	44	44	36	11	4
45c. Pharynx	320	—	—	1	7	3	9	6	21	21	50	65	62	53	16	6
45c. Jaw, sarcoma	37	—	1	1	1	—	—	2	2	2	6	3	10	5	2	2
45c. Jaw, other	247	—	—	—	1	3	1	3	18	13	39	47	45	42	26	9
45c. Others (1)	179	—	—	1	1	1	2	2	10	12	18	34	45	31	18	4
Total	2,163	—	1	7	11	13	17	42	99	129	305	443	510	365	152	69
46a. Œsophagus	1,517	—	—	2	6	9	21	35	69	151	214	365	304	229	84	28
46b. Stomach	7,395	—	—	6	62	132	255	377	572	891	1,210	1,405	1,266	822	304	93
46b. Duodenum	45	—	—	—	1	2	3	2	4	7	6	8	3	5	3	1
46c. Other small intestine	70	—	—	1	2	1	8	5	5	9	7	17	7	5	3	—
46c. Cæcum	298	1	1	2	1	8	7	6	19	32	37	54	47	59	10	14
46c. Hepatic flexure	143	—	—	—	3	4	7	4	7	12	10	36	34	19	6	1
46c. Splenic flexure																
46c. Sigmoid flexure	813	—	—	2	10	8	13	20	45	84	112	143	173	130	59	14
46c. Large intestine (colon)	3,190	—	2	6	28	45	65	103	130	225	449	592	709	495	247	94
46c. Other and undefined intestine	64	—	1	1	2	—	4	—	4	4	8	7	14	11	7	1
46d. Rectum (not anus)	3,747	1	1	7	29	41	87	121	198	349	533	789	741	559	231	60
46e. Liver	1,006	1	3	5	6	7	26	45	66	97	153	198	193	124	62	2
46e. Gall bladder and ducts	290	—	—	—	3	5	5	5	20	18	45	66	53	43	19	8
46f. Pancreas	1,263	—	—	1	6	8	37	60	96	154	201	250	195	160	76	19
46g. Peritoneum, mesentery, others	133	1	2	3	11	5	15	9	9	18	14	21	16	6	2	1
46h. Other and unspecified digestive organs	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Total	19,975	4	10	36	170	275	553	792	1,244	2,051	2,999	3,951	3,755	2,668	1,113	354

47a.	Larynx, trachea	826	—	—	—	2	5	14	18	43	93	134	173	188	110	38	8
47b.	Lung, bronchus, pleura	5,438	2	—	10	78	140	324	544	767	1,032	1,014	814	435	206	54	18
	Mediastinum	292	1	7	10	6	6	11	34	33	43	42	46	36	11	4	2
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	6,556	3	7	20	86	151	349	596	843	1,168	1,190	1,033	659	327	96	28
50.	Breast	60	—	—	—	—	2	3	3	3	7	13	10	9	5	5	—
51a.	Scrotum	41	—	—	—	—	2	2	—	—	4	7	6	11	6	1	2
51b.	Prostate	2,189	—	2	1	2	3	5	16	46	126	237	461	542	465	215	68
51c.	Testis	165	—	—	26	34	19	19	15	11	7	8	9	11	4	1	1
	Penis	154	—	—	—	—	3	2	7	13	9	24	20	29	25	14	8
	Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	2,549	—	2	27	36	27	28	38	70	146	276	496	593	500	231	79
52.	Kidney	405	20	6	4	8	13	17	29	46	64	64	65	37	20	10	2
	Bladder, urethra, ureter	1,239	1	1	—	2	13	9	40	90	133	192	238	242	174	78	26
	Total	1,644	21	7	4	10	26	26	69	136	197	256	303	279	194	88	28
53.	Skin (not scrotum)	564	1	1	3	9	8	7	19	28	36	49	81	92	100	74	56
54a.	Glioma of brain and nervous system (2)	312	9	18	23	22	21	44	41	47	40	28	12	4	1	2	—
54b, c.	Other cancer of brain and meninges	107	2	7	4	6	5	15	16	17	15	11	5	3	1	—	—
	Other cancer of other nervous system (3)	15	1	1	1	3	2	1	—	2	1	1	1	—	—	1	—
	Total	434	12	26	28	31	28	60	57	66	56	40	18	7	2	3	—
55a.	Adrenal glands	24	5	2	—	1	2	1	—	3	5	—	2	2	—	1	—
55b, d :1.	Ethmoid, nose	109	—	1	2	6	1	2	5	13	15	23	14	10	9	4	4
	Other bone (not jaw)	401	2	17	47	24	14	20	22	34	41	52	49	38	25	7	9
55c.	Thyroid gland	83	—	—	—	—	2	5	5	1	18	13	14	12	8	4	1
55d : 2.	Other and unspecified (4)	725	9	16	22	32	25	30	33	53	65	107	134	98	59	33	9
	Total	1,342	16	36	71	63	44	58	65	104	144	195	213	160	101	49	23

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXf.—Cancer of different Forms and Sites : Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1945.

	All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
DEATHS OF MALES																
All sites	**36,776**	**77**	**86**	**169**	**501**	**598**	**1,124**	**1,770**	**2,754**	**4,095**	**5,621**	**6,553**	**6,364**	**4,438**	**1,988**	**638**
Carcinoma	32,872	11	10	64	337	449	927	1,534	2,431	3,649	5,071	5,954	5,872	4,118	1,847	598
Lymphosarcoma, reticulosarcoma	250	4	8	14	21	22	25	21	13	26	33	29	20	8	3	3
Other sarcoma	1,206	42	36	63	84	65	68	82	108	154	152	142	100	74	30	6
Glioma	364	12	23	21	30	28	40	48	53	53	30	17	6	3	—	—
Cancer undefined	2,084	8	9	7	29	34	64	85	149	213	335	411	366	235	108	31
45a. Lips	181	—	—	—	1	—	—	1	2	6	15	28	36	46	32	14
45b. Tongue	658	—	—	2	1	3	8	11	29	37	81	140	170	114	52	10
45c. Mouth	246	—	—	—	1	—	—	3	12	15	21	46	65	55	23	5
45c. Tonsil	176	—	1	—	1	2	3	5	5	13	23	30	43	27	16	7
45c. Pharynx	354	—	2	3	5	4	8	7	15	29	55	68	82	51	21	4
45c. Jaw, sarcoma	43	—	1	4	3	1	1	—	1	4	5	7	3	7	5	1
45c. Jaw, other	187	—	—	—	—	3	—	5	12	9	28	36	43	28	19	4
45c. Others (1)	173	—	—	—	—	1	—	4	7	11	24	33	40	30	16	7
Total	2,018	—	4	9	12	14	20	36	83	124	252	388	482	358	184	52
46a. Œsophagus	1,502	—	—	2	5	13	27	40	80	109	229	328	334	216	96	23
46b. Stomach	7,668	—	—	7	72	127	235	374	599	945	1,236	1,428	1,349	854	347	95
46b. Duodenum	43	—	—	—	—	3	2	1	7	4	7	4	8	2	3	2
46c. Other small intestine	75	—	—	1	1	4	12	3	9	10	6	8	10	6	2	3
46c. Cæcum	332	1	1	—	5	6	9	16	22	38	44	60	62	45	18	5
46c. Hepatic flexure / Splenic flexure	139	—	—	1	3	—	3	6	9	8	19	33	24	26	4	3
46c. Sigmoid flexure	787	—	—	1	11	6	19	26	48	70	116	152	152	117	57	12
46c. Large intestine (colon)	3,426	1	1	5	36	35	60	93	160	245	452	639	742	583	279	95
46c. Other and undefined intestine	55	—	2	2	1	—	2	2	1	6	6	9	13	8	3	—
46d. Rectum (not anus)	3,935	—	—	4	46	45	85	124	222	330	595	785	820	572	232	75
46e. Liver	1,001	4	1	2	7	8	16	33	68	108	154	187	191	128	70	24
46e. Gall bladder and ducts	272	—	—	—	—	5	7	8	12	46	31	54	52	37	16	4
46f. Pancreas	1,248	—	—	—	10	19	27	52	114	128	207	230	216	147	70	28
46g. Peritoneum, mesentery, others	152	3	6	5	12	9	11	16	18	20	18	16	8	8	1	1
46h. Other and unspecified digestive organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	20,635	9	11	30	209	280	515	794	1,369	2,067	3,120	3,933	3,981	2,749	1,198	370

47a.	Larynx, trachea	829	—	—	1	4	4	17	33	39	92	148	181	155	90	54	11
47b.	Lung, bronchus, pleura	5,941	1	3	14	91	136	342	599	803	1,119	1,139	903	494	220	65	12
	Mediastinum	289	—	2	8	7	12	25	18	30	47	48	51	18	13	8	2
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	7,059	1	5	23	102	152	384	650	872	1,258	1,335	1,135	667	323	127	25
50.	Breast	70	—	1	—	1	—	2	—	8	7	5	13	9	11	8	5
51a.	Scrotum	33	—	—	—	—	2	—	—	1	4	8	6	5	7	—	—
51b.	Prostate	2,376	2	—	—	3	3	10	13	44	117	271	444	601	545	248	75
51c.	Testis	180	1	—	16	55	25	13	11	11	9	13	6	7	5	4	4
	Penis	132	—	—	—	1	1	5	6	11	8	26	23	23	6	15	7
	Others	2	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—
	Total	2,723	3	—	16	60	31	28	30	67	138	318	479	636	563	268	86
52.	Kidney	427	24	4	3	10	8	23	27	45	70	75	62	42	29	4	1
	Bladder, urethra, ureter	1,342	5	—	—	6	10	16	65	94	137	219	259	245	175	79	32
	Total	1,769	29	4	3	16	18	39	92	139	207	294	321	287	204	83	33
53.	Skin (not scrotum)	597	1	3	3	10	16	16	14	27	44	50	86	107	98	73	49
54a.	Glioma of brain and nervous system (2)...	364	12	23	21	30	28	40	48	53	53	30	17	6	3	—	—
54b, c.	Other cancer of brain and meninges ...	116	4	8	3	10	7	15	13	16	15	18	4	1	2	—	—
	Other cancer of other nervous system (3)	32	1	1	3	2	4	2	2	1	6	3	3	1	—	2	1
	Total	512	17	32	27	42	39	57	63	70	74	51	24	8	5	2	1
55a.	Adrenal glands	34	4	1	2	1	1	2	4	4	2	7	3	3	—	—	—
55b, d: 1	Ethmoid, nose	108	—	—	1	2	4	4	8	19	16	11	10	16	13	4	—
	Other bone (not jaw)	410	5	14	37	14	10	19	22	40	54	55	48	46	31	12	3
55c.	Thyroid gland	83	—	—	—	3	3	5	5	5	8	10	11	15	12	5	1
55d: 2.	Other and unspecified (4)	758	8	11	18	29	30	33	52	51	96	113	102	107	71	24	13
	Total	1,393	17	26	58	49	48	63	91	119	176	196	174	187	127	45	17

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXa.—Cancer of different Forms and Sites: Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1940.

		All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
		DEATHS OF FEMALES															
All sites		**35,605**	**57**	**64**	**137**	**579**	**816**	**1,413**	**2,401**	**3,273**	**4,127**	**4,940**	**5,443**	**5,164**	**3,903**	**2,216**	**1,072**
Carcinoma		32,289	5	9	52	431	703	1,246	2,156	2,982	3,752	4,493	5,033	4,757	3,615	2,072	983
Lymphosarcoma, reticulosarcoma		1,037	27	35	56	80	50	64	82	83	102	126	124	90	68	33	17
Other sarcoma																	
Glioma		205	13	14	13	27	20	16	31	24	27	6	4	5	3	1	1
Cancer undefined		2,074	12	6	16	41	43	87	132	184	246	315	282	312	217	110	71
45a.	Lips	20	—	—	—	—	—	—	—	1	3	2	2	2	2	5	3
45b.	Tongue	139	—	—	—	3	2	4	5	8	17	23	22	26	20	4	5
45c.	Mouth	48	—	—	—	—	—	—	1	6	1	8	8	13	5	3	3
	Tonsil	37	—	1	—	—	3	3	—	3	6	4	2	5	3	6	1
	Pharynx	123	1	—	1	2	6	2	6	14	19	21	19	14	15	2	1
	Jaw, sarcoma	25	—	—	1	1	2	—	1	2	3	7	1	4	2	1	—
	Jaw, other	117	1	—	1	—	3	2	5	8	17	12	25	23	10	3	7
	Others (1)	39	—	—	—	—	1	—	6	1	4	5	6	4	6	4	2
	Total	548	2	1	3	6	17	11	24	43	70	82	85	91	63	28	22
46a.	Œsophagus	691	—	—	—	1	7	16	36	64	81	99	119	117	81	50	20
46b.	Stomach	5,910	—	—	7	82	77	115	231	367	538	824	1,085	1,102	836	463	183
	Duodenum	37	—	—	—	—	—	1	4	3	5	5	4	9	4	2	—
46c.	Other small intestine	86	—	1	—	3	3	5	8	5	11	11	10	9	12	7	1
	Cæcum	453	1	1	—	7	—	10	19	23	42	61	80	86	72	36	15
	Hepatic flexure, Splenic flexure	152	—	1	—	1	2	6	7	9	16	23	28	27	12	11	9
	Sigmoid flexure	754	—	—	1	5	11	25	41	63	67	102	124	126	103	61	25
	Large intestine (colon)	3,900	—	—	2	32	54	76	139	237	326	461	640	739	620	376	198
	Other and undefined intestine	155	1	—	2	4	—	4	5	11	7	24	18	24	30	15	10
46d.	Rectum (not anus)	2,250	—	—	5	32	48	55	112	174	222	291	361	392	316	160	82
46e.	Liver	1,051	1	—	2	8	9	30	32	73	110	153	175	177	143	93	45
	Gall bladder and ducts	525	—	—	—	—	6	5	19	30	54	73	100	94	76	51	17
46f.	Pancreas	1,002	—	—	1	3	11	22	42	56	108	163	194	176	132	57	37
46g.	Peritoneum, mesentery, others	225	1	2	8	12	8	15	23	25	18	32	38	25	16	—	2
46h.	Other and unspecified digestive organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	17,191	4	5	28	190	236	385	718	1,140	1,605	2,322	2,976	3,103	2,453	1,382	644

47a.	Larynx, trachea	271	—	—	1	6	5	15	14	33	35	53	45	33	22	8	1
47b.	Lung, bronchus, pleura	1,062	—	4	8	27	24	49	78	114	142	187	172	136	84	32	5
	Mediastinum	118	—	1	5	2	2	6	9	8	13	19	17	16	13	5	2
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	1,451	—	5	14	35	31	70	101	155	190	259	234	185	119	45	8
48a.	Cervix uteri	1,856	—	—	2	42	90	182	260	288	266	238	206	143	84	43	12
48b.	Corpus uteri	204	—	—	—	1	4	4	11	26	32	40	33	20	18	12	3
	Other and undefined uterus	2,342	—	—	5	32	63	108	239	286	364	362	348	247	172	84	32
	Total	4,402	—	—	7	75	157	294	510	600	662	640	587	410	274	139	47
49.	Ovary and fallopian tube	1,820	1	1	18	49	69	136	198	258	302	264	219	160	101	39	5
	Vulva and vagina	428	—	—	—	7	7	7	20	19	46	55	66	71	69	44	17
	Other female genital organs	5	—	—	—	—	—	—	—	—	1	1	2	1	—	—	—
	Total	2,253	1	1	18	56	76	143	218	277	349	320	287	232	170	83	22
50.	Breast	7,058	—	—	3	102	212	397	656	849	977	1,015	926	791	551	364	215
52.	Kidney	283	16	12	3	10	7	10	21	18	37	38	35	36	24	8	8
	Bladder, urethra, ureter	526	—	1	—	2	4	12	18	35	36	64	94	102	84	56	18
	Total	809	16	13	3	12	11	22	39	53	73	102	129	138	108	64	26
53.	Skin	440	—	1	4	15	8	13	18	22	22	40	53	57	65	56	66
54a.	Glioma of brain and nervous system (2)	205	13	14	13	27	20	16	31	24	27	6	4	5	3	1	1
54b, c.	Other cancer of brain and meninges	81	3	5	10	8	10	6	9	10	6	2	3	5	—	2	2
	Other cancer of other nervous system (3)	16	—	—	—	1	2	2	4	2	3	1	—	1	—	—	—
	Total	302	16	19	23	36	32	24	44	36	36	9	7	11	3	3	3
55a.	Adrenal glands	24	5	2	—	2	2	—	—	1	6	2	2	2	—	—	—
55b,d : 1.	Ethmoid, nose	43	—	—	—	2	1	3	1	—	6	8	5	6	4	6	1
	Other bone (not jaw)	367	5	10	21	24	13	19	22	33	40	51	45	39	27	13	5
55c.	Thyroid gland	200	—	—	—	3	5	7	12	15	23	30	41	28	23	10	3
55d : 2.	Other and unspecified (4)	517	8	7	13	21	15	25	38	49	68	60	66	71	43	23	10
	Total	1,151	18	19	34	52	36	54	73	98	143	151	159	146	97	52	19

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXb.—Cancer of different Forms and Sites : Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1941.

	All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
DEATHS OF FEMALES																
All sites	**35,492**	**52**	**74**	**124**	**609**	**804**	**1,457**	**2,407**	**3,272**	**4,078**	**4,939**	**5,373**	**5,033**	**3,976**	**2,200**	**1,094**
Carcinoma	32,106	11	14	56	460	698	1,301	2,166	2,953	3,696	4,484	4,921	4,628	3,671	2,048	999
Lymphosarcoma, reticulosarcoma	1,041	32	38	52	72	48	52	64	91	130	131	133	97	56	21	24
Other sarcoma																
Glioma	200	6	17	7	30	14	19	27	37	19	17	5	1	1	—	—
Cancer undefined	2,145	3	5	9	47	44	85	150	191	233	307	314	307	248	131	71
45a. Lips	14	—	—	—	—	—	1	—	—	1	1	3	3	5	—	—
45b. Tongue	137	—	—	—	1	3	4	3	13	10	24	18	18	21	15	7
45c. Mouth	32	—	—	—	—	—	—	2	—	3	4	5	6	6	5	1
45c. Tonsil	36	—	—	—	—	1	1	4	—	5	5	6	3	7	2	2
45c. Pharynx	114	—	2	—	2	6	4	6	11	22	11	17	16	12	2	3
45c. Jaw, sarcoma	37	—	2	2	1	—	—	1	4	6	5	2	5	3	2	4
45c. Jaw, other	106	—	—	1	1	1	3	4	7	12	14	15	22	11	12	3
45c. Others (1)	49	—	—	—	—	1	—	2	2	3	7	13	5	5	5	6
Total	525	—	4	3	5	12	13	22	37	62	71	79	78	70	43	26
46a. Œsophagus	690	—	—	—	5	8	15	32	64	65	98	124	111	87	52	29
46b. Stomach	5,790	1	2	7	64	66	119	236	366	565	864	1,044	1,020	824	429	183
46b. Duodenum	47	—	—	—	1	—	—	2	3	6	5	7	9	9	4	1
46b. Other small intestine	50	—	—	—	1	3	3	4	4	2	7	10	3	7	6	—
46b. Cæcum	414	—	1	—	5	5	10	14	25	30	54	69	69	77	43	12
46c. Hepatic flexure, Splenic flexure	162	—	—	—	2	2	3	13	6	9	15	24	32	31	12	13
46b. Sigmoid flexure	820	—	—	1	8	9	20	43	54	80	96	158	140	106	71	34
46b. Large intestine (colon)	4,014	—	—	7	32	64	88	151	235	330	471	598	774	698	385	181
46b. Other and undefined intestine	93	—	—	—	—	2	3	6	6	14	12	14	16	10	6	4
46d. Rectum (not anus)	2,309	—	—	7	42	45	51	116	156	221	324	361	396	331	178	81
46e Liver	1,029	3	—	2	8	14	18	45	50	84	143	175	181	156	99	51
46e Gall bladder and ducts	544	—	—	—	2	4	6	20	44	65	74	104	104	66	35	20
46f. Pancreas	980	—	—	1	10	4	23	32	69	100	160	183	172	119	75	32
46g. Peritoneum, mesentery, others	220	4	2	7	9	8	14	12	22	22	33	36	24	17	5	5
46h. Other and unspecified digestive organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17,162	8	5	32	189	234	373	726	1,104	1,593	2,356	2,907	3,051	2,538	1,400	646

47a.	Larynx, trachea	271	—	1	—	3	2	8	29	38	42	38	49	26	20	10	5
47b.	Lung, bronchus, pleura	1,021	—	—	2	30	22	54	78	113	144	166	166	129	70	31	16
	Mediastinum	135	1	3	1	6	5	6	8	14	20	16	19	16	11	6	3
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	1,427	1	4	3	39	29	68	115	165	206	220	234	171	101	47	24
48a.	Cervix uteri	1,905	—	1	1	45	75	183	247	269	284	251	218	178	93	42	18
48b.	Corpus uteri	258	—	—	—	—	2	6	17	31	39	52	34	33	23	15	6
	Other and undefined uterus	2,365	—	—	5	35	45	145	210	280	349	380	359	283	167	80	27
	Total	4,528	—	1	6	80	122	334	474	580	672	683	611	494	283	137	51
49.	Ovary and fallopian tube	1,821	—	5	18	68	70	138	217	255	287	251	234	142	91	35	10
	Vulva and vagina	458	—	—	2	5	8	9	12	32	48	68	68	82	72	36	16
	Other female genital organs	8	—	—	—	—	—	1	—	2	1	1	2	1	—	—	—
	Total	2,287	—	5	20	73	78	148	229	289	336	320	304	225	163	71	26
50.	Breast	6,958	—	—	2	111	257	423	682	873	936	980	896	704	554	339	201
52.	Kidney	263	21	7	2	6	7	12	15	28	27	29	42	30	22	11	4
	Bladder, urethra, ureter	533	—	1	—	4	8	12	25	36	55	67	87	82	83	46	27
	Total	796	21	8	2	10	15	24	40	64	82	96	129	112	105	57	31
53.	Skin	425	1	1	2	16	5	8	12	20	29	36	55	53	58	64	65
54a.	Glioma of brain and nervous system (2)...	200	6	17	7	30	14	19	27	37	19	17	5	1	1	—	—
54b, c.	Other cancer of brain and meninges ...	71	2	3	5	11	3	4	9	11	8	8	6	—	1	—	—
	Other cancer of other nervous system (3)	20	—	—	1	4	4	2	1	2	1	1	1	1	1	1	—
	Total	291	8	20	13	45	21	25	37	50	28	26	12	2	3	1	—
55a.	Adrenal glands	26	6	1	1	—	1	1	2	5	2	2	2	1	1	1	—
55b, d : 1.	Ethmoid, nose	48	—	—	1	—	1	2	—	5	3	4	5	14	5	6	2
	Other bone (not jaw)	352	3	16	30	19	11	18	22	25	38	47	51	40	24	2	6
55c.	Thyroid gland	210	—	2	—	2	4	5	13	17	22	41	32	27	26	14	5
55d : 2.	Other and unspecified (4)	457	4	7	9	20	14	15	33	38	69	57	56	61	45	18	11
	Total	1,093	13	26	41	41	31	41	70	90	134	151	146	143	101	41	24

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above) muscle, etc.

Table LXXIXc.—Cancer of different Forms and Sites : Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1942.

	All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
DEATHS OF FEMALES																
All sites	**36,143**	**57**	**76**	**135**	**581**	**824**	**1,460**	**2,470**	**3,159**	**4,171**	**5,066**	**5,539**	**5,214**	**4,038**	**2,224**	**1,129**
Carcinoma	32,611	8	8	43	428	709	1,305	2,217	2,876	3,806	4,608	5,059	4,773	3,705	2,037	1,029
Lymphosarcoma, reticulosarcoma	1,148	31	38	67	83	60	59	94	94	104	115	144	133	64	42	20
Other sarcoma	225	10	25	19	28	13	22	26	22	24	20	9	4	3	—	—
Glioma	2,159	8	5	6	42	42	74	133	167	237	323	327	304	266	145	80
Cancer undefined																
45a. Lips	29	—	—	—	—	—	—	1	2	2	3	4	3	8	4	2
45b. Tongue	139	—	—	—	2	1	2	5	12	10	27	26	23	12	14	5
45c. Mouth	45	—	—	—	—	—	—	2	3	8	6	9	5	6	3	3
Tonsil	42	—	2	1	1	—	—	2	1	2	5	7	7	7	4	3
Pharynx	120	—	2	4	5	4	3	5	13	15	16	22	14	9	7	1
Jaw, sarcoma	33	—	—	1	2	2	2	—	—	3	4	6	4	5	4	—
Jaw, other	71	—	1	1	2	1	2	3	6	7	8	10	11	6	6	7
Others (1)	35	—	—	—	—	—	3	1	4	4	4	5	8	1	2	3
Total	514	—	5	7	12	8	12	19	41	51	73	89	75	54	44	24
46a. Œsophagus	681	—	—	—	5	8	16	33	47	81	118	129	95	82	44	23
46b. Stomach	5,554	—	—	3	64	87	144	237	339	525	820	933	1,026	830	378	168
Duodenum	34	—	—	—	1	—	1	1	2	2	7	4	9	3	1	3
46c. Other small intestine	72	—	—	—	1	2	4	2	3	8	11	16	11	8	4	2
Cæcum	407	—	—	—	3	5	7	15	22	33	56	60	76	69	40	21
Hepatic flexure	150	—	—	—	3	4	4	6	11	10	16	26	24	30	12	4
Splenic flexure																
Sigmoid flexure	842	—	—	1	15	17	24	36	51	92	109	139	146	121	57	34
Large intestine (colon)	3,882	—	1	3	33	40	88	159	189	341	493	600	725	635	388	187
Other and undefined intestine	102	—	—	1	1	—	1	4	2	14	8	16	15	19	15	6
46d. Rectum (not anus)	2,442	—	—	7	37	45	80	114	182	256	317	414	412	336	159	83
46e. Liver	1,049	4	3	1	4	21	24	31	65	79	138	192	193	151	102	41
Gall bladder and ducts	577	—	—	—	1	5	11	13	33	61	76	108	112	83	48	26
46f. Pancreas	1,056	—	—	1	6	10	18	39	72	129	157	210	177	134	76	27
46g. Peritoneum, mesentery, others	211	2	4	5	15	6	11	14	24	29	22	30	22	16	6	5
46h. Other and unspecified digestive organs	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Total	17,060	6	8	22	189	250	433	704	1,042	1,660	2,348	2,878	3,043	2,517	1,330	630

47a.	Larynx, trachea	259	—	—	—	2	10	14	18	36	33	46	34	29	24	6	7
47b.	Lung, bronchus, pleura	1,133	3	1	5	24	41	52	79	120	149	190	190	149	85	34	11
	Mediastinum	134	—	2	1	3	6	6	9	11	11	16	24	17	22	4	2
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	1,526	3	3	6	29	57	72	106	167	193	252	248	195	131	44	20
48a.	Cervix uteri	1,886	—	—	—	34	84	141	277	268	308	258	211	161	90	38	16
48b.	Corpus uteri	299	—	—	—	2	5	12	18	41	49	47	56	32	25	7	5
	Other and undefined uterus	2,392	—	—	2	31	50	122	245	268	359	347	354	295	183	92	44
	Total	4,577	—	—	2	67	139	275	540	577	716	652	621	488	298	137	65
49.	Ovary and fallopian tube	1,886	2	4	11	56	73	133	218	280	278	288	218	156	110	44	15
	Vulva and vagina	473	—	—	1	5	6	9	19	23	48	67	73	89	61	49	23
	Other female genital organs	6	—	—	—	2	—	—	1	—	1	—	1	1	—	—	—
	Total	2,365	2	4	12	63	79	142	238	303	327	355	292	246	171	93	38
50.	Breast	7,205	—	—	4	109	211	430	690	823	948	1,041	1,017	796	554	365	217
52.	Kidney	310	18	5	2	10	9	9	21	26	32	40	48	45	25	13	7
	Bladder, urethra, ureter	597	—	—	1	5	2	5	22	32	53	97	106	88	96	54	36
	Total	907	18	5	3	15	11	14	43	58	85	137	154	133	121	67	43
53.	Skin	457	1	2	5	14	9	10	18	19	34	37	43	67	67	68	63
54a.	Glioma of brain and nervous system (2)...	225	10	25	19	28	13	22	26	22	24	20	9	4	3	—	—
54b, c.	Other cancer of brain and meninges ...	63	2	1	4	11	5	4	8	9	6	4	4	4	—	—	1
	Other cancer of other nervous system (3)	15	1	—	1	—	—	1	4	1	—	—	2	2	1	2	—
	Total	303	13	26	24	39	18	27	38	32	30	24	15	10	4	2	1
55a.	Adrenal glands	24	6	1	—	4	1	2	—	—	3	1	4	2	—	—	—
55b, d:1.	Ethmoid, nose	86	—	—	2	—	3	6	5	4	8	8	18	13	16	2	1
	Other bone (not jaw)	375	3	15	31	24	16	10	22	25	41	37	43	47	34	21	6
55c.	Thyroid gland	213	—	—	—	3	6	3	7	16	26	32	34	34	23	23	6
55d:2.	Other and unspecified (4)	531	5	7	17	13	16	24	40	52	49	69	83	65	48	28	15
	Total	1,229	14	23	50	44	42	45	74	97	127	147	182	161	121	74	28

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXd.—Cancer of different Forms and Sites : Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1943.

	All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
	DEATHS OF FEMALES															
All sites	**36,878**	**47**	**67**	**151**	**583**	**819**	**1,488**	**2,359**	**3,281**	**4,152**	**5,133**	**5,567**	**5,334**	**4,330**	**2,433**	**1,134**
Carcinoma	33,260	5	8	64	468	699	1,335	2,092	2,933	3,769	4,674	5,096	4,882	3,947	2,234	1,054
Lymphosarcoma, reticulosarcoma	1,128	29	36	58	60	49	57	84	111	132	134	138	109	95	26	10
Other sarcoma																
Glioma	222	6	16	16	23	25	20	30	29	26	16	7	5	—	1	2
Cancer undefined	2,268	7	7	13	32	46	76	153	208	225	309	326	338	288	172	68
45a. Lips	28	—	—	—	—	1	—	—	1	2	—	4	6	4	8	2
45b. Tongue	166	—	—	—	2	—	3	5	12	25	18	31	28	22	11	9
45c. Mouth	42	—	—	—	—	1	1	2	5	4	6	10	4	7	2	—
45c. Tonsil	43	—	—	1	1	2	2	1	3	4	3	3	11	7	5	—
45c. Pharynx	112	—	1	2	3	6	7	7	9	11	17	18	18	9	4	—
45c. Jaw, sarcoma	28	1	—	—	—	1	1	2	4	3	3	4	3	5	—	1
45c. Jaw, other	87	—	—	—	—	—	3	4	13	5	9	11	13	17	6	6
45c. Others (1)	43	—	—	2	—	—	4	—	—	4	11	7	7	6	1	1
Total	549	1	1	5	6	11	21	21	47	58	67	88	90	77	37	19
46a. Œsophagus	766	—	—	—	8	6	18	21	54	80	124	138	124	111	54	28
46b. Stomach	5,707	—	—	8	60	85	132	201	355	542	810	987	1,048	829	464	186
46b. Duodenum	38	—	—	—	—	—	—	1	4	2	5	10	7	5	3	1
46c. Other small intestine	83	1	—	—	2	2	2	6	7	15	14	8	10	8	5	3
46c. Cæcum	454	—	—	1	1	4	7	17	29	30	69	73	77	72	49	25
46c. Hepatic flexure, Splenic flexure	162	—	—	—	5	3	6	5	6	17	25	28	27	27	10	3
46c. Sigmoid flexure	813	—	—	—	16	12	20	32	67	77	119	135	125	110	69	31
46c. Large intestine (colon)	4,070	—	—	6	51	43	96	152	226	315	494	610	722	699	432	224
46c. Other and undefined intestine	87	—	—	—	—	1	2	5	5	9	12	16	14	15	4	4
46d. Rectum (not anus)	2,437	—	—	10	39	48	69	109	161	247	320	386	429	343	198	78
46e. Liver	1,055	2	—	3	8	5	18	44	66	106	137	168	183	174	107	34
46e. Gall bladder and ducts	532	—	—	—	4	7	10	18	32	49	67	113	103	67	42	20
46f. Pancreas	1,052	—	—	1	6	2	22	39	56	108	174	228	177	131	74	34
46g. Peritoneum, mesentery, others	193	7	—	4	7	7	7	14	19	26	30	26	23	16	3	4
46h. Other and unspecified digestive organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17,449	10	—	33	207	225	409	664	1,087	1,623	2,400	2,926	3,069	2,607	1,514	675

47a.	Larynx, trachea	287	—	—	—	3	8	11	21	35	48	40	36	34	29	16	6
47b.	Lung, bronchus, pleura	1,161	1	5	9	35	38	66	84	125	142	178	182	156	87	37	16
	Mediastinum	135	—	2	4	6	5	5	9	8	12	20	20	16	22	5	1
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	1,583	1	7	13	44	51	82	114	168	202	238	238	206	138	58	23
48a.	Cervix uteri	1,932	—	—	1	40	75	144	248	298	296	256	230	162	116	47	19
48b.	Corpus uteri	283	—	—	—	3	5	11	22	28	45	55	42	31	27	8	6
	Other and undefined uterus	2,340	1	—	7	29	55	130	230	290	346	317	347	258	199	92	39
	Total	4,555	1	—	8	72	135	285	500	616	687	628	619	451	342	147	64
49.	Ovary and fallopian tube	1,984	2	5	18	54	64	136	218	269	290	306	237	203	120	48	14
	Vulva and vagina	484	—	2	—	4	6	11	17	24	33	59	74	95	85	47	27
	Other female genital organs	13	—	—	1	—	1	1	1	1	4	2	2	—	—	—	—
	Total	2,481	2	7	19	58	71	148	236	294	327	367	313	298	205	95	41
50.	Breast	7,324	—	—	—	104	243	437	669	821	963	1,036	977	851	621	399	203
52.	Kidney	333	8	3	1	4	8	11	19	31	43	49	55	49	40	10	2
	Bladder, urethra, ureter	603	—	—	—	1	5	9	15	42	46	94	114	113	97	49	18
	Total	936	8	3	1	5	13	20	34	73	89	143	169	162	137	59	20
53.	Skin	469	1	2	3	10	6	15	18	21	33	54	53	51	78	64	60
54a.	Glioma of brain and nervous system (2)...	222	6	16	16	23	25	20	30	29	26	16	7	5	—	1	2
54b, c.	Other cancer of brain and meninges ...	84	3	6	7	10	5	8	4	16	8	8	7	1	1	—	—
	Other cancer of other nervous system (3)	15	—	—	—	—	—	1	3	—	4	2	4	—	1	—	—
	Total	321	9	22	23	33	30	29	37	45	38	26	18	6	2	1	2
55a.	Adrenal glands	19	1	2	—	2	1	—	2	2	2	4	—	1	—	2	—
55b, d :1.	Ethmoid, nose	87	—	2	3	—	3	3	5	9	12	14	5	16	8	2	5
	Other bone (not jaw)	377	4	16	31	20	12	16	21	32	28	45	57	38	41	14	2
55c.	Thyroid gland	202	—	—	—	1	4	2	5	33	23	31	35	32	19	10	7
55d : 2.	Other and unspecified (4)	526	9	5	12	21	14	21	33	33	67	80	69	63	55	31	13
	Total	1,211	14	25	46	44	34	42	66	109	132	174	166	150	123	59	27

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXe.—Cancer of different Forms and Sites ; Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1944.

	All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
DEATHS OF FEMALES																
All sites	**36,823**	**70**	**65**	**130**	**538**	**795**	**1,487**	**2,342**	**3,345**	**4,165**	**5,116**	**5,485**	**5,379**	**4,249**	**2,526**	**1,131**
Carcinoma	33,320	6	8	56	429	695	1,315	2,095	3,019	3,758	4,651	5,019	4,958	3,935	2,349	1,027
Lymphosarcoma, reticulosarcoma	1,134	46	37	51	52	39	63	85	115	153	139	127	109	73	29	16
Other sarcoma	229	11	18	17	26	19	25	18	32	29	12	15	6	—	1	—
Glioma	2,140	7	2	6	31	42	84	144	179	225	314	324	306	241	147	88
Cancer undefined																
45a. Lips	20	—	—	—	—	1	—	—	—	2	3	1	2	4	5	2
45b. Tongue	156	—	—	—	—	4	5	4	10	18	15	20	27	25	19	9
45c. Mouth	38	—	—	—	—	1	—	2	1	2	8	13	2	5	2	2
Tonsil	44	—	—	3	—	1	4	5	4	4	1	5	6	6	3	2
Pharynx	122	—	—	1	1	2	7	10	20	15	18	20	13	10	3	2
Jaw, sarcoma	26	—	—	2	—	1	1	1	1	—	2	5	6	6	1	—
Jaw, other	84	—	—	—	—	—	1	4	2	6	12	22	15	9	11	2
Others (1)	46	—	—	—	—	—	2	2	1	5	9	8	6	4	4	5
Total	536	—	—	6	1	10	20	28	39	52	68	94	77	69	48	24
46a. Œsophagus	688	—	—	—	3	8	11	32	42	88	103	131	107	90	51	22
46b. Stomach	5,817	—	1	7	61	77	113	219	364	552	834	967	1,088	847	498	189
Duodenum	32	—	—	—	—	—	2	—	—	4	5	10	3	4	3	1
46c. Other small intestine	66	—	—	3	3	—	1	2	8	10	9	16	6	5	3	—
Cæcum	483	—	—	1	5	6	13	18	31	39	65	75	80	81	45	24
Hepatic flexure	175	—	—	1	1	1	3	12	10	6	21	27	35	30	20	8
Splenic flexure																
Sigmoid flexure	824	—	—	—	11	11	16	36	64	83	120	116	171	108	62	26
Large intestine (colon)	4,103	—	—	3	29	48	78	133	241	376	483	595	748	721	428	220
Other and undefined intestine	101	1	1	—	3	—	3	2	4	7	7	23	22	16	9	3
46d. Rectum (not anus)	2,360	—	—	3	25	36	67	119	162	233	327	391	397	334	202	64
46e. Liver	1,019	1	3	—	14	15	26	39	55	90	140	157	190	130	106	53
Gall bladder and ducts	587	—	—	—	2	4	12	13	34	54	95	111	105	79	54	24
46f. Pancreas	1,023	—	—	1	10	13	20	42	72	98	158	199	168	146	70	26
46g. Peritoneum, mesentery, others	203	3	1	3	8	3	10	13	20	26	36	38	21	13	5	3
46h. Other and unspecified digestive organs	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Total	17,482	5	6	22	175	222	375	680	1,107	1,666	2,404	2,856	3,141	2,604	1,556	663

47a.	Larynx, trachea	282	—	—	1	4	6	13	16	32	52	45	38	32	24	13	6
47b.	Lung, bronchus, pleura	1,237	—	—	5	26	47	61	88	151	187	189	167	162	100	37	17
	Mediastinum	123	—	2	3	4	5	4	11	15	9	24	16	17	8	5	—
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	1,642	—	2	9	34	58	78	115	198	248	258	221	211	132	55	23
48a.	Cervix uteri	1,784	1	—	1	53	68	138	210	274	274	236	206	164	101	45	13
48b.	Corpus uteri	283	—	—	—	1	1	5	18	35	44	44	48	41	28	10	8
	Other and undefined uterus	2,267	2	—	5	38	42	98	185	264	317	372	323	307	190	84	40
	Total	4,334	3	—	6	92	111	241	413	573	635	652	577	512	319	139	61
49.	Ovary and fallopian tube	2,112	—	5	19	55	73	151	221	303	307	294	286	202	124	56	16
	Vulva and vagina	440	—	—	2	2	3	20	19	30	21	58	76	86	57	47	19
	Other female genital organs	8	—	—	1	1	1	1	—	—	1	1	1	1	—	—	—
	Total	2,560	—	5	22	58	77	172	240	333	329	353	363	289	181	103	35
50.	Breast	7,307	—	—	3	87	237	471	694	847	918	999	1,003	786	623	426	213
52.	Kidney	348	22	8	1	3	6	14	16	22	42	54	57	40	38	17	8
	Bladder, urethra, ureter	573	—	—	—	2	7	16	20	40	50	96	89	100	86	41	26
	Total	921	22	8	1	5	13	30	36	62	92	150	146	140	124	58	34
53.	Skin	468	1	1	4	13	6	17	18	25	29	37	56	63	78	70	50
54a.	Glioma of brain and nervous system (2)...	229	11	18	17	26	19	25	18	32	29	12	15	6	—	1	—
54b, c.	Other cancer of brain and meninges ...	87	3	3	4	6	4	17	7	13	11	11	3	2	2	1	—
	Other cancer of other nervous system (3)	14	1	1	1	1	1	—	1	—	3	2	—	2	1	—	—
	Total	330	15	22	22	33	24	42	26	45	43	25	18	10	3	2	—
55a.	Adrenal glands	33	9	2	—	3	2	2	3	4	1	1	3	1	2	—	—
55b, d : 1.	Ethmoid, nose	95	—	—	—	3	—	2	6	10	10	13	13	14	13	8	3
	Other bone (not jaw)	356	7	14	25	17	15	16	27	40	32	42	46	33	28	10	4
55c.	Thyroid gland	212	—	—	3	3	5	3	13	11	35	40	22	32	25	15	5
55d : 2.	Other and unspecified (4)	547	8	5	7	14	15	18	43	51	75	74	67	70	48	36	16
	Total	1,243	24	21	35	40	37	41	92	116	153	170	151	150	116	69	28

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXIXf.—Cancer of different Forms and Sites : Deaths by Sex and Age (including those of non-civilians registered in England and Wales), 1945.

	All ages	0–	5–	15–	25–	35–	40–	45–	50–	55–	60–	65–	70–	75–	80–	85–
DEATHS OF FEMALES																
All sites	**37,515**	**71**	**74**	**124**	**543**	**809**	**1,467**	**2,297**	**3,272**	**4,214**	**5,012**	**5,688**	**5,568**	**4,491**	**2,547**	**1,338**
Carcinoma	34,009	13	7	56	409	696	1,303	2,055	2,957	3,822	4,588	5,241	5,111	4,151	2,357	1,243
Lymphosarcoma, reticulosarcoma	160	5	7	5	15	10	12	10	10	16	23	14	21	6	5	1
Other sarcoma	998	39	30	43	66	47	48	73	103	113	102	100	113	68	33	20
Glioma	252	8	25	13	27	14	27	34	35	38	21	7	—	2	1	—
Cancer undefined	2,096	6	5	7	26	42	77	125	167	225	278	326	323	264	151	74
45a. Lips	18	—	—	—	—	—	—	—	—	1	4	4	1	3	2	3
45b. Tongue	146	—	—	—	—	3	4	9	12	14	14	18	23	23	15	11
45c. Mouth	59	—	—	—	—	1	1	2	4	3	5	12	10	8	8	5
45c. Tonsil	52	—	2	—	3	1	—	4	2	4	6	4	10	10	4	2
45c. Pharynx	110	1	1	—	3	3	5	9	13	14	10	14	16	14	5	2
45c. Jaw, sarcoma	18	—	1	—	—	1	—	—	1	1	1	6	2	2	2	1
45c. Jaw, other	82	—	—	—	1	—	1	1	8	8	7	14	12	18	7	5
45c. Others (1)	41	—	—	—	1	—	—	1	3	5	4	8	7	5	3	4
Total	526	1	4	—	8	9	11	26	43	50	51	80	81	83	46	33
46a. Œsophagus	779	—	—	—	5	5	20	44	54	81	113	134	134	106	52	31
46b. Stomach	5,869	—	—	3	50	85	133	205	322	539	790	1,031	1,109	894	487	221
46b. Duodenum	29	—	—	—	1	—	—	3	3	1	3	6	4	6	2	—
46c. Other small intestine	84	—	—	—	2	—	6	3	6	6	8	20	10	11	8	4
46c. Cæcum	389	—	—	2	6	8	10	17	19	33	52	72	57	65	33	15
46c. Hepatic flexure, Splenic flexure	172	—	—	—	—	1	5	5	12	21	19	31	30	23	17	8
46c. Sigmoid flexure	864	—	—	2	7	18	30	38	63	93	115	140	137	124	65	32
46c. Large intestine (colon)	4,232	—	—	9	28	61	112	139	251	346	502	660	754	684	450	236
46c. Other and undefined intestine	78	—	—	—	2	1	1	1	7	6	6	14	15	17	7	1
46d. Rectum (not anus)	2,490	—	—	5	35	37	70	109	172	219	332	421	422	351	223	94
46e. Liver	971	1	2	1	6	8	14	27	48	87	129	167	185	149	107	40
46e. Gall bladder and ducts	572	—	—	—	2	3	9	23	33	55	80	97	116	80	50	24
46f. Pancreas	1,181	—	—	1	5	14	20	47	72	109	142	234	218	178	82	59
46g. Peritoneum, mesentery, others	240	3	3	1	12	7	9	16	24	36	32	38	34	16	9	—
46h. Other and unspecified digestive organs	2	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—
Total	17,952	4	5	24	161	248	439	677	1,086	1,632	2,323	3,067	3,225	2,704	1,592	765

47a.	Larynx, trachea	281	—	—	1	4	4	12	13	37	51	34	41	33	31	12	8
47b.	Lung, bronchus, pleura	1,357	1	1	4	37	41	58	93	138	171	244	228	176	101	49	15
	Mediastinum	123	1	5	4	5	4	5	11	8	17	16	17	18	8	1	3
47c.	Other and unspecified respiratory organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	1,761	2	6	9	46	49	75	117	183	239	294	286	227	140	62	26
48a.	Cervix uteri	1,814	1	1	3	40	58	135	215	279	280	251	211	175	114	31	20
48b.	Corpus uteri	333	—	—	—	—	2	4	18	33	60	54	55	52	39	12	4
	Other and undefined uterus	2,225	1	1	3	28	40	93	194	258	335	353	293	279	200	100	47
	Total	4,372	2	2	6	68	100	232	427	570	675	658	559	506	353	143	71
49.	Ovary and fallopian tube	2,095	1	1	17	50	74	134	226	286	319	304	249	217	132	66	19
	Vulva and vagina	428	1	—	—	3	9	7	20	30	32	42	66	78	72	38	30
	Other female genital organs	8	—	—	—	—	1	1	—	2	—	2	—	1	1	—	—
	Total	2,531	2	1	17	53	84	142	246	318	351	348	315	296	205	104	49
50.	Breast	7,294	1	—	4	101	233	442	646	819	939	992	980	827	643	397	270
52.	Kidney	303	28	4	1	5	8	13	14	22	31	40	58	31	27	15	6
	Bladder, urethra, ureter	611	—	—	—	4	5	12	13	39	56	71	98	116	121	54	22
	Total	914	28	4	1	9	13	25	27	61	87	111	156	147	148	69	28
53.	Skin	480	1	1	6	11	13	13	17	30	29	38	50	64	78	69	60
54a.	Glioma of brain and nervous system (2)...	252	8	25	13	27	14	27	34	35	38	21	7	—	2	1	—
54b, c.	Other cancer of brain and meninges ...	90	3	5	6	6	9	11	11	13	8	8	4	4	2	—	—
	Other cancer of other nervous system (3)	22	—	1	1	1	1	2	—	3	1	3	3	2	3	1	—
	Total	364	11	31	20	34	24	40	45	51	47	32	14	6	7	2	—
55a.	Adrenal glands	28	7	2	1	4	2	—	3	1	—	1	4	1	1	—	1
55b,d : 1.	Ethmoid, nose	97	—	1	1	1	3	5	6	14	7	8	14	16	13	3	5
	Other bone (not jaw)	335	5	12	23	18	4	14	14	31	44	38	43	41	26	11	11
55c.	Thyroid gland	225	—	—	—	5	1	4	8	14	34	31	33	47	26	14	8
55d : 2.	Other and unspecified (4)	636	7	5	12	24	26	25	38	51	80	87	87	84	64	35	11
	Total	1,321	19	20	37	52	36	48	69	111	165	165	181	189	130	63	36

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes glioma of eye.
(3) Includes retina, optic nerve, spinal cord, cauda equina, nerves and sympathetic system.
(4) Includes lymphatic glands, abdomen, eye (except as above), muscle, etc.

Table LXXX.—Cancer of different Sites : Death-rates per million living* by Sex and Age, 1911–20, 1921–30, 1931–35, 1936–39, 1940–44, 1945.

	MALES						FEMALES					
	0–35 E.A.D.R.	35–	45–	55–	65–	75 and over	0–35 E.A.D.R.	35–	45–	55–	65–	75 and over
ALL SITES												
1911–20 ...	57	424	1,665	4,333	7,691	9,208	64	787	2,222	4,257	6,786	8,512
1921–30 ...	60	420	1,618	4,666	9,063	11,994	67	762	2,115	4,172	7,220	10,236
1931–35 ...	62	446	1,618	4,601	9,760	13,486	68	732	2,048	4,010	7,167	10,978
1936–39 ...	67	452	1,590	4,583	9,783	14,716	65	693	1,973	3,905	7,080	11,369
1940–44 ...	69	503	1,705	4,620	9,802	14,078	73	687	1,984	3,849	6,820	10,385
1945	75	517	1,792	4,803	9,705	13,585	73	669	1,900	3,747	6,645	10,165
LIPS												
1911–20 ...	0	2	10	38	108	335	0	0	1	2	5	21
1921–30 ...	0	1	7	36	104	297	0	0	1	2	6	19
1931–35 ...	0	1	7	27	90	281	0	0	0	1	5	15
1936–39 ...	0	1	4	21	74	250	—	0	0	1	4	19
1940–44 ...	0	1	3	16	65	194	—	0	0	2	4	15
1945	0	—	1	10	48	177	—	—	—	2	3	10
TONGUE												
1911–20 ...	0	19	122	279	395	382	0	4	9	18	30	47
1921–30 ...	0	9	81	266	411	429	0	2	7	17	29	51
1931–35 ...	0	4	40	195	399	439	0	2	5	17	27	52
1936–39 ...	0	3	26	140	324	450	0	1	7	15	33	43
1940–44 ...	0	2	17	91	294	404	0	2	5	16	30	55
1945	0	3	16	58	233	338	—	2	7	11	24	60
MOUTH AND TONSIL (1)												
1911–20 ...	1	9	52	127	179	204	0	2	6	13	20	37
1921–30 ...	1	7	48	158	255	280	0	2	6	16	27	41
1931–35 ...	1	4	30	144	290	362	0	3	6	15	23	51
1936–39 ...	1	4	23	109	269	373	0	2	5	12	29	51
1940–44 ...	1	3	15	68	219	374	0	2	5	12	25	46
1945	0	2	14	53	193	358	1	1	5	11	30	59
PHARYNX												
1911–20 ...	1	4	25	60	83	74	0	4	8	14	11	17
1921–30 ...	1	4	22	69	113	103	0	4	8	12	16	21
1931–35 ...	1	3	19	71	138	134	0	2	9	15	20	22
1936–39 ...	1	3	12	57	139	159	0	2	9	17	23	19
1940–44 ...	1	4	13	44	115	158	1	3	7	14	22	22
1945	1	4	9	42	113	146	0	2	8	10	18	25
JAW												
1911–20 ...	1	10	52	126	206	231	1	6	15	31	48	64
1921–30 ...	2	6	33	105	178	243	1	4	13	27	45	66
1931–35 ...	1	5	19	65	149	205	1	3	8	21	39	55
1936–39 ...	1	4	16	53	115	186	1	3	9	19	41	64
1940–44 ...	1	2	9	35	97	161	0	2	5	12	26	41
1945	1	2	7	2	67	123	0	1	3	7	20	42
ŒSOPHAGUS												
1911–20 ...	0	18	139	357	510	466	1	18	43	70	105	144
1021–30 ...	0	10	113	384	600	623	1	13	45	81	133	190
1931–35 ...	0	9	71	341	639	737	0	9	42	93	153	226
1936–39 ...	1	10	50	264	591	758	1	9	37	91	159	242
1040–44 ...	1	9	41	205	557	715	0	7	30	79	152	227
1945	1	12	48	167	497	644	0	7	33	79	158	229

Table LXXX—(*Contd.*)

	MALES						FEMALES					
	0–35 E.A.D.R.	35–	45–	55–	65–	75 and over	0–35 E.A.D.R.	35–	45–	55–	65–	75 and over
STOMACH AND DUODENUM												
1911–20 ...	6	96	361	952	1,709	1,686	4	74	255	663	1,268	1,457
1921–30 ...	7	114	407	1,067	2,040	2,311	5	73	253	681	1,489	1,952
1931–35 ...	7	116	425	1,076	2,193	2,624	6	71	233	645	1,513	2,212
1936–39 ...	7	113	422	1,087	2,160	2,755	5	69	219	610	1,451	2,264
1940–44 ...	6	112	406	1,062	2,088	2,620	6	62	206	580	1,321	2,027
1945	7	110	389	1,084	2,095	2,506	5	64	182	541	1,269	1,954
INTESTINE EXCEPT RECTUM AND DUODENUM (2)												
1911–20 ...	4	44	145	423	901	1,154	4	50	179	469	982	1,358
1921–30 ...	4	44	153	508	1,237	1,840	4	51	180	506	1,198	2,006
1931–35 ...	5	44	160	520	1,384	2,248	5	59	185	498	1,266	2,398
1936–39 ...	5	48	155	543	1,431	2,495	6	62	193	501	1,237	2,502
1940–44 ...	5	50	156	526	1,422	2,409	6	59	192	493	1,202	2,361
1945	7	47	156	504	1,431	2,435	5	74	191	490	1,145	2,184
RECTUM (3)												
1911–20 ...	4	37	142	445	895	1,113	3	36	111	260	509	647
1921–30 ...	4	31	143	483	1,057	1,421	4	32	98	253	513	778
1931–35 ...	4	35	135	481	1,165	1,570	4	31	87	239	511	791
1936–39 ...	4	33	121	478	1,170	1,736	3	32	93	225	493	784
1940–44 ...	4	38	126	457	1,215	1,741	4	33	98	231	502	812
1945	4	39	137	457	1,206	1,690	3	31	96	224	498	811
LIVER												
1911–20 ...	3	33	144	420	822	987	3	38	160	472	920	1,104
1921–30 ...	2	19	85	264	609	859	2	20	82	256	595	896
1931–35 ...	2	16	55	180	449	654	1	13	49	140	365	611
1936–39 ...	1	11	51	144	334	538	1	13	39	112	269	495
1940–44 ...	1	12	45	129	302	460	1	11	35	99	228	410
1945	1	7	40	130	284	427	1	6	26	88	208	359
GALL BLADDER AND DUCTS												
1911–20 ...	0	2	10	26	59	83	0	3	19	58	113	132
1921–30 ...	0	3	10	34	90	155	0	4	22	75	166	243
1931–35 ...	0	2	11	40	95	174	0	4	21	72	176	260
1936–39 ...	0	2	12	35	91	165	0	3	19	69	146	233
1940–44 ...	0	2	10	33	84	146	0	4	18	56	134	195
1945	—	4	8	38	80	110	0	4	19	55	126	187
PANCREAS												
1911–20 ...	1	10	36	88	128	127	1	7	26	68	109	111
1921–30 ...	1	15	53	132	223	253	1	9	34	100	170	214
1931–35 ...	1	14	62	148	300	381	1	10	38	113	224	290
1936–39 ...	1	14	61	163	324	475	1	8	42	120	244	362
1940–44 ...	1	15	63	167	337	487	1	9	36	114	240	323
1945	1	14	66	166	335	471	1	10	41	102	267	387
PERITONEUM, MESENTERY (4)												
1911–20 ...	1	5	12	26	42	37	1	10	28	57	83	100
1921–30 ...	2	6	10	22	31	29	1	7	19	39	51	53
1931–35 ...	2	5	10	16	22	20	1	5	14	26	37	30
1936–39 ...	2	5	7	15	23	24	1	5	11	26	30	28
1940–44 ...	2	6	10	20	30	23	2	5	13	23	36	32
1945	2	6	13	19	18	19	2	5	14	28	43	30

Table LXXX—(*Contd.*)

	MALES						FEMALES					
	0–35 E.A.D.R.	35–	45–	55–	65–	75 and over	0–35 E.A.D.R.	35–	45–	55–	65–	75 and over
LARYNX, TRACHEA												
1911–20 ...	0	10	61	140	191	157	1	8	20	25	24	28
1921–30 ...	0	8	64	185	285	242	0	7	23	35	38	37
1931–35 ...	0	7	49	176	295	323	0	7	23	33	42	47
1936–39 ...	0	6	38	154	310	371	0	6	20	38	48	60
1940–44 ...	0	6	35	125	286	342	0	6	19	36	45	54
1945	0	6	29	119	252	298	0	5	17	35	44	62
LUNG, BRONCHUS, PLEURA												
1911–20 ...	3	13	34	64	76	42	1	8	20	34	42	28
1921–30 ...	3	29	73	128	136	92	1	10	25	50	60	51
1931–35 ...	5	69	217	350	347	239	2	18	47	94	124	105
1936–39 ...	8	99	335	579	570	381	2	24	60	123	176	155
1940–44 ...	8	129	453	866	799	498	3	27	72	140	205	183
1945	10	144	555	1,116	1,050	571	4	29	79	169	238	200
MEDIASTINUM												
1911–20 ...	2	10	22	46	53	35	1	5	12	21	26	22
1921–30 ...	2	11	32	63	82	55	1	5	13	27	40	35
1931–35 ...	1	9	24	45	67	57	1	3	8	19	25	30
1936–39 ...	2	6	19	44	63	46	1	3	6	15	25	29
1940–44 ...	2	8	27	48	57	52	1	3	7	13	23	30
1945	2	11	19	47	52	44	1	3	6	13	21	15
	PROSTATE						UTERUS					
1911–20 ...	0	2	16	99	329	510	11	218	556	791	861	773
1921–30 ...	0	2	22	158	593	1,034	11	200	473	682	831	823
1931–35 ...	0	2	26	175	734	1,355	8	171	414	585	742	745
1936–39 ...	0	4	25	193	772	1,535	7	151	386	557	697	747
1940–44 ...	0	3	26	206	829	1,601	7	127	377	556	684	690
1945	0	4	23	192	785	1,669	7	98	340	541	629	688
	TESTIS						OVARY AND FALLOPIAN TUBE					
1911–20 ...	3	8	7	8	15	29	4	31	78	103	100	76
1921–30 ...	4	10	7	9	15	28	5	43	112	156	170	133
1931–35 ...	4	12	10	8	15	23	6	53	143	194	220	179
1936–39 ...	5	12	7	10	18	24	7	60	158	222	253	244
1940–44 ...	5	13	11	8	17	19	7	63	171	240	262	228
1945	6	11	9	11	10	25	6	61	175	253	275	263
	PENIS						VAGINA, VULVA (5)					
1911–20 ...	0	3	9	29	51	108	1	6	20	49	100	174
1921–30 ...	0	2	9	22	58	118	0	6	19	49	104	189
1931–35 ...	0	3	9	21	52	126	0	5	19	43	111	206
1936–39 ...	0	1	6	20	48	134	0	5	16	41	107	204
1940–44 ...	0	2	7	15	45	108	1	6	15	43	101	185
1945	0	2	7	17	35	54	0	5	18	31	86	171
BREAST												
1911–20 ...	0	1	3	6	12	25	6	176	474	696	946	1,503
1921–30 ...	0	1	3	8	14	27	7	187	508	782	1,052	1,740
1931–35 ...	0	1	3	9	17	33	8	189	529	839	1,098	1,849
1936–39 ...	0	1	4	8	16	35	8	184	516	830	1,132	1,889
1940–44 ...	0	1	4	8	19	28	9	201	533	823	1,114	1,612
1945	0	1	3	6	17	46	9	198	500	784	1,067	1,590

Table LXXX—(*Contd.*)

	MALES						FEMALES					
	0–35 E.A.D.R.	35–	45–	55–	65–	75 and over	0–35 E.A.D.R.	35–	45–	55–	65–	75 and over
KIDNEY												
1931–35 ...	4	10	25	56	72	71	3	5	16	35	58	60
1936–39 ...	4	11	28	56	76	66	3	5	15	31	56	65
1940–44 ...	4	8	29	61	82	65	3	6	15	33	56	65
1945	2	9	29	72	78	65	4	6	12	29	53	58
BLADDER, URETER, URETHRA												
1911–20 ...	1	8	36	124	297	385	0	4	15	43	91	133
1921–30 ...	1	8	38	132	309	467	0	4	17	48	108	173
1931–35 ...	0	9	47	139	332	523	0	4	14	44	111	190
1936–39 ...	1	8	45	146	329	542	0	4	15	52	118	185
1940–44 ...	1	10	55	169	367	582	0	5	20	55	124	225
1945	1	8	63	176	379	550	0	5	18	52	126	239
SKIN (6)												
1911–20 ...	1	9	29	79	187	643	1	5	15	42	111	371
1921–30 ...	1	8	26	82	210	705	1	7	13	36	102	388
1931–35 ...	1	7	22	64	201	674	1	5	13	32	84	379
1936–39 ...	1	6	20	56	177	662	1	6	15	27	76	329
1940–44 ...	1	7	21	55	161	527	2	6	13	29	70	268
1945	2	10	17	52	153	437	2	8	16	27	67	251
BRAIN AND CENTRAL NERVOUS SYSTEM												
1931–35 ...	9	25	37	32	15	8	9	14	25	23	11	9
1936–39 ...	10	25	48	46	16	10	8	20	26	26	13	7
1940–44 ...	10	28	49	45	21	6	8	16	27	24	14	8
1945	11	29	53	62	24	15	9	19	33	32	12	11
BONES (EXCEPT JAW)												
1911–20 ...	7	12	25	52	77	89	5	8	22	39	57	82
1921–30 ...	8	13	27	56	83	109	6	11	23	40	66	86
1931–35 ...	8	11	32	52	82	84	6	11	23	37	61	68
1936–39 ...	9	14	29	57	89	114	6	11	21	42	60	79
1940–44 ...	8	13	32	61	99	111	6	10	22	40	68	84
1945	7	11	34	67	88	112	6	8	22	39	64	79
THYROID GLAND												
1911–20 ...	0	1	4	9	12	12	0	3	9	20	34	33
1921–30 ...	0	1	5	12	14	18	0	3	9	23	42	58
1931–35 ...	0	1	5	12	20	16	0	3	11	24	44	54
1936–39 ...	0	1	5	11	17	18	0	3	10	24	44	59
1940–44 ...	0	2	5	11	20	23	0	3	10	25	40	59
1945	0	2	4	9	20	35	0	1	8	26	47	58
OTHER SITES												
1931–35 ...	6	22	68	158	198	125	5	32	66	113	77	44
1936–39 ...	3	7	21	94	237	414	3	2	26	59	116	211
1940–44 ...	7	17	37	89	175	224	5	9	33	61	92	128
1945	9	19	43	127	162	220	7	16	31	68	107	143

* Including deaths of non-civilians in England and Wales, and based upon mid-year populations in 1911-14 and 1921–39 and total populations inclusive of armed forces at home and abroad in 1915–20 and 1940–45.

(1) Includes palate, cheek (internal surface), salivary glands, gums.
(2) Includes small intestine, cæcum, flexures, large and undefined intestine.
(3) Includes anus in 1911–30.
(4) Includes omentum.
(5) Includes other female genital organs.
(6) Includes scrotum ; also anus from 1931.

Another example is the larynx, for which the peak of mortality at successive age-groups was reached at progressively later dates in time. Some of the main features brought out by the more detailed analysis in Table LXXX are mentioned below.

Lips.—Death-rates continued to fall at each age amongst males, the 1945 level compared with that of 30 years previously being only one-tenth at 45–55, a quarter at 55–65 and a half at more advanced ages. Female rates also continued to fall at 65 and over, but not at 55–65.

Tongue.—The fall continued in all groups except females aged 35–55 and over 75. For males the 1945 level compared with 1911–20 was about one-seventh at 35–55, a fifth at 55–65 and three-fifths at 65–75. Amongst men over 75 the rate reached its peak in 1936–39 and then declined.

Mouth and Tonsil.—Amongst males, rates at ages under 55 have fallen continuously since 1911–20; at 55–65 the peak was reached in 1921–30, followed by a rapid fall to one-third of that level; at 65–75 it was reached in 1931–35 and a continuous fall has occurred since; at 75 and over the rate reached a stationary level in 1936–44, which is probably maximal. Female mortality, however, continued to rise at ages over 65.

Pharynx.—The changes have been similar to those for mouth and tonsil except amongst males aged 35–45, whose rate has not fallen in 30 years.

Jaw.—Many of these deaths belong more properly to the mouth, involvement of the jaw being a late stage; and the fall in the rates to very small figures at ages under 65 by 1945 is probably due to earlier ascertainment and better description of the primary site in these cases. At more advanced ages the rates continued to fall but were still considerable for men in 1945.

Buccal Cavity and Pharynx.—For the whole group (No. 45 of the International List) the C.M.I. for males averaged 1·173 in 1933–35 and 0·732 in 1943–45; and for females the corresponding figures were 1·015 and 0·838. This implies reductions in mortality in ten years of 38 and 17 per cent. respectively.

Œsophagus.—Amongst males the rate at 35–45 has not changed consistently since 1921–30; at 45–55 it continued to fall, except in 1945; at 55–65 it began to fall after 1921–30 reaching half the peak level by 1945; at 65–75 the fall commenced after 1931–35, and at 75 and over after 1936–39, and has continued at both ages. This behaviour of the rates would be consistent with a progressive reduction of the intensity of irritant factors, such as alcohol, causing a gradual lengthening of the latent period before malignancy develops. It cannot be attributed to any appreciable improvement in survival of persons in whom a neoplasm has actually developed. Amongst females a similar progression of the peak death rate has occurred, a slight fall in the rates at ages over 65 being apparent since 1936–39.

Stomach and Duodenum.—The addition of duodenum to this group, in accordance with the Fifth Revision of the International List, makes no appreciable difference to the rates; the number of deaths in 1940–44 as shown by Table LXXIX, was, for males, 248 from duodenal and 36,396 from stomach cancer, and for females the numbers were 188 and 28,778. The proportions of duodenum in the totals were therefore 0·68 and 0·65 per cent. amongst males and females respectively.

Amongst males the death-rates reached their highest level at each age in the period 1931–39, and then fell appreciably in 1940–44. Amongst females, rates at ages 35–55 have been falling since 1911–20; at 55–65 the decline

started after 1921–30, at 65–75 after 1931–35 and at more advanced ages after 1936–39. As in the case of the œsophagus the figures suggest that the downward movement of mortality has arisen from a gradual reduction in intensity of irritant factors, whatever they may be.

Intestine except Rectum and Duodenum.—Rates were increasing in all groups up to 1931–35. At ages under 45 they have continued to increase for males, and show no improvement for females. At 45–55 the male death-rate was rather lower, and the female rate was higher, during 1936–45. At 55–65 both rates declined after 1936–39. At ages over 65 male death-rates increased in 1936–39 and have changed little since, but female rates have fallen in recent years. It would appear that the maximum level has now been reached or passed at all periods of life.

Rectum.—There have been no consistent changes in the rates since 1931–35 for males at ages under 65 and females under 75, but at more advanced ages they have continued to rise.

Liver.—The rapid fall in mortality which has had, for want of more precise specification of the primary site, to be classified to this organ, continued at every age. Death-rates at ages under 65 in 1945 compared with 1911–20 were about one-third amongst males and one-fifth amongst females.

Gall Bladder and Ducts.—Death-rates reached their highest level at most ages about 1931–35 or just before, and thereafter fell continuously and considerably at ages over 55.

Pancreas.—The progressive increase in certified mortality continues for males at all ages, but for females over 45 the rates in 1940–44 were lower than in 1936–39.

Peritoneum and Mesentery.—Death-rates were falling rapidly up to 1931–35, owing probably to better certification, but since then there has been no important change.

Digestive Organs and Peritoneum.—For the whole group (No. 46 of the International List) the C.M.I. for males averaged 1·018 in 1933–35 and 0·975 in 1943–45 ; and for females the corresponding figures were 1·028 and 0·920. This implies reductions in mortality during ten years of four and 11 per cent. respectively.

Larynx and Trachea.—The behaviour of the death-rates has been similar to that for the œsophagus and the explanation is probably the same. Maximal levels were reached in 1921–30 for males aged 45–65, and in 1936–39 for males over 65, and continuous falls in the rates have since occurred. For females this was true also, except that the peak level at ages 55–65 was not reached until 1936–39.

Lung, Bronchus, Pleura.—The movements of death-rates from cancer of the lung and bronchus are in startling contrast with those for any other organ. The rise has been continuous and rapid at every age period for each sex. Comparing 1945 rates with the mean annual rates of 1936–39, the percentage increases were :—

Males					Females				
35–	45–	55–	65–	75 and over	35–	45–	55–	65–	75 and over
+45	+66	+93	+84	+50	+21	+32	+37	+35	+29

Although the proportionate rates of increase were not as great during this recent interval as during an equal interval between 1921–30 and 1931–35, the increments in death-rates of males were greater in the recent period, as may be seen below.

Increments in 7½-year intervals	Males					Females				
	35–	45–	55–	65–	75–	35–	45–	55–	65–	75–
1921–30 to 1931–35 ...	40	144	222	211	147	8	22	44	64	54
1936–39 to 1945	45	220	537	480	190	5	19	46	62	45

Comparing the actual deaths of males in 1945 from Table LXXIX (*f*) with the numbers in 1938 and 1931 (adjusted to the 1940 classification), the magnitude of the increases at present in progress can be more clearly seen :—

	0–	25–	35–	45–	55–	65–	75 and over	All ages
1931 ...	17	39	140	372	449	256	65	1,338
1938 ...	23	84	294	852	1,235	696	166	3,350
1945 ...	18	91	478	1,402	2,258	1,397	297	5,941

The rise in mortality from cancer of this site alone accounts for most of the recent increase in male death-rates from cancer of all sites at ages 35–55, which has been noticed above. Whereas in 1938 lung cancer contributed 23 per cent. of all cancer deaths of males at this age period, in 1945 it contributed 30 per cent.

To what extent the increase can be explained by more skiagraphic examination of patients previously thought to be suffering from pulmonary tuberculosis or chronic bronchitis cannot be determined at present. That this could only account for part of the increase is indicated by the following considerations. A more rapid increase has occurred amongst men between 45 and 75 than amongst women of those ages, but at the same time pulmonary tuberculosis deaths have been increasing amongst elderly men and decreasing amongst the women. If increasing frequency of skiagraphic examination of bronchitis patients were responsible, the same relative degree of increase in ascertainment of lung cancer in the two periods compared above would be expected in females as in males. However, the increments in death-rates of females were about the same in each period, whereas the increments for males were much greater in the second period than the first. Furthermore, the distribution of lung cancer death rates, and degree of increase in those rates, in towns and rural areas are not consistent with such an explanation. (*See* " Regional and Local Differences in Cancer Death Rates ".)

The rapid increase in death-rates from lung cancer is a serious problem which merits intensive effort to discover the underlying causes. In the process of investigating possible causes, such as the presence of carcinogenic substances in tobacco and other kinds of smoke, it may well be that knowledge will also be increased regarding the long-term effects of minute quantities of radio-active isotopes on the genesis of cancer in general.

Mediastinum.—A fall in death-rates occurred between 1921–30 and 1936–39, but the rates in 1940–44 were somewhat higher at most ages of males and showed no appreciable change amongst females.

Prostate.—The increase in death-rates continued in 1940–44 at each age over 55, but in 1945 the rates fell back appreciably at ages between 45 and 75.

Testis.—No consistent change in mortality has occurred since 1931–35 for this organ.

Penis.—Rates in 1940–44 were appreciably lower than in 1936–39 at ages over 55, and the decline continued in 1945 at ages over 65.

Uterus.—The rapid fall in mortality at ages 35–45 continued throughout the war; at 45–75 there was little change in 1940–44, but further decreases occurred in 1945; and at more advanced ages the fall was resumed in 1940–44. The C.M.I. averaged 1·049 in 1933–35 and 0·916 in 1943–45, a reduction of 13 per cent. in the course of ten years.

Ovary and Fallopian Tube.—The progressive increase in death-rates was again evident in 1940–44 at all ages between 35 and 75.

Vagina and Vulva.—Further decreases occurred in the rates at ages over 65 but no important change was evident at younger ages.

Breast.—The death-rates of females between 35 and 65 were rising up to 1931–35 but they decreased in 1936–39, whilst the rates at more advanced ages continued to rise. During the war considerable decreases occurred for each age-group after 55, but at younger ages the rates rose to higher levels than had hitherto been reached. The C.M.I. for females of all ages averaged 0·999 in 1933–35 and 0·967 in 1943–45, indicating a reduction of three per cent. in the course of ten years.

Kidney.—Death-rates of males have increased since 1931–35 at ages 45–75, but have fallen slightly at other ages; but for females the reverse has been true.

Bladder, Ureter, Urethra.—The progressive increase in mortality continued during the war at each age over 35 for each sex. For urinary organs as a whole (No. 52) the C.M.I. for males averaged 0·943 in 1933–35 and 1·086 in 1943–45, and for females the corresponding figures were 1·021 and 1·141. This implies increases in mortality during ten years of 15 and 12 per cent. respectively.

Skin (including Scrotum).—Amongst males over 55 and females over 65 the fall in death-rates has continued, but at younger ages no further improvement has occurred since 1936–39.

The C.M.I. for skin excluding scrotum averaged 1·004 for males in 1933–35 and 0·874 in 1943–45, and for females the corresponding figures were 1·010 and 0·880. This implies reductions during ten years of 13 per cent. for both sexes.

Brain and Nervous System.—Amongst males the death-rates have increased since 1931–35, rates being particularly high in 1945. For females also, the rates of 1940–44 were above those of 1931–35 at ages 35–75, and 1945 rates were still further enhanced at 35–65. Before drawing any conclusions from

these rates, however, it is necessary to take account of the decrease which has been occurring in the deaths from brain tumours of unknown nature (*see* Table LXXXII and page 181).

Bones (except Jaw).—In 1936–39 increases occurred in the rates of males under 45 and over 55 and of females aged 55–65 and over 75. During the war, rates at ages under 45 decreased, but they tended to rise amongst males between 45 and 75.

Thyroid Gland.—Except for an increase in the rates for males over 75, no consistent changes have occurred in mortality in recent years.

Other Sites.—These comprise the adrenal glands, lymph glands, eye, abdomen, muscle and unspecified site. During 1940–45 there were 339 deaths from cancer of the suprarenals, of which 80 occurred amongst children under 15. This compares with 91 deaths in the two years 1938–39, of which 19 were of children. For the group as a whole the rates have increased since 1936–39 at ages under 65 and decreased at more advanced ages. (The estimated figures for 1931–35 for this small residual group are subject to large errors owing to the method of calculation of the 29 other groups by application of factors, and they are only inserted to complete the totals.)

Summary.—Since 1936–39 the only sites for which there has been registered any appreciable increase in cancer mortality amongst females under 65 are the lung, bladder, rectum, ovary, breast and peritoneum. Amongst males the lung is outstanding amongst the sites for which mortality is still rising at those ages, other such sites being the pancreas, bladder, prostate, mediastinum, rectum, peritoneum and bones.

Regional Distribution for Separate Sites.—Table LXXXI compares the proportionate distribution of deaths amongst six groups of organs at various ages in 1940–42 and 1943–45 in each large region and according to urbanisation.

Much work has been done on the distribution of deaths from cancer of different sites in 1921–30 in the counties of England and Wales, to which reference has been made in previous Reviews.* It has now been firmly established that for many of the sites the patterns on the map formed by the death-rates of that period were not fortuitous but indicated the presence of significant regional influences tending to increase or to decrease mortality, the counties tending to coalesce into areas and zones of high, intermediate and low mortality. Such coalescence was specially pronounced for the œsophagus, stomach, intestines in elderly females, rectum in elderly men, breast, liver and gall bladder, and for all organs combined ; but smaller significant foci of high mortality were also established for other sites such as the lung, uterus and skin. The contour lines of these areas of high and low incidence may not follow county boundaries, still less regional ones, and study of regional rates may fail to reveal them. Nevertheless, until it is possible to complete the detailed analysis of death-rates by counties and parts of counties in 1931–39 and 1940–45, the regional comparison of proportionate mortality for a few sites in the latter period (Table LXXXI) may show something of interest.

---

* See P. Stocks, Studies in Medical and Population Subjects, No. 1, General Register Office, 1947, and in Annual Reports of British Empire Cancer Campaign, 1936, 1937, 1939 ; and also D. B. Cruickshank, " Regional Influences in Cancer ", British Journal of Cancer, 1948, Vol. 1, No. 2.

Table LXXXI.—Deaths from Cancer of certain Sites per 1,000 for all Sites, at certain Ages in Regions and different classes of Area. (Civilians) 1940–42 and 1943–45.

	England and Wales	Greater London	Remainder of South East	North	Midland	East	South West	Wales	County boroughs*	Other urban districts*	Rural districts*
Cancer of Mouth and Œsophagus											
Males, 15–45											
1940–42	43	24	51	44	49	36	74	55	43	54	49
1943–45	43	46	53	40	40	38	35	42	42	35	55
Males, 45–65											
1940–42	92	90	100	87	89	95	113	103	90	93	100
1943–45	73	68	77	71	73	84	101	70	71	74	84
Males, 65–											
1940–42	144	136	133	157	150	123	134	150	161	144	127
1943–45	129	123	120	138	133	113	124	133	144	124	119
Females, all ages											
1940–42	34	31	32	34	31	36	37	53	35	33	37
1943–45	35	31	30	36	31	33	41	53	34	35	39
Cancer of Stomach and Duodenum											
Males, 15–45											
1940–42	190	173	149	219	176	158	196	231	205	195	170
1943–45	199	170	149	226	213	184	160	244	202	225	183
Males, 45–65											
1940–42	238	205	211	257	236	240	247	300	241	249	254
1943–45	225	187	200	240	231	227	244	287	233	237	235
Males, 65–											
1940–42	209	181	196	222	196	207	221	286	208	218	221
1943–45	200	178	185	206	191	198	223	277	192	214	208
Females, 15–45											
1940–42	94	92	69	104	99	62	99	104	97	98	82
1943–45	92	88	72	106	91	68	73	95	98	89	87
Females, 45–65											
1940–42 ...	134	117	112	150	130	122	123	188	144	135	137
1943–45	129	113	116	142	124	107	119	175	138	135	119
Females, 65–											
1940–42	197	173	167	224	197	185	189	254	208	200	199
1943–45	191	173	173	205	186	190	179	258	196	194	195
Cancer of Respiratory System											
Males, all ages											
1940–42	156	216	145	155	148	106	101	114	173	133	103
1943–45	183	249	169	181	171	131	127	143	199	159	126
Females, all ages											
1940–42	41	51	37	43	37	35	33	38	42	37	36
1943–45	45	55	42	47	41	38	30	39	46	41	39

Table LXXXI—(*Contd.*)

	England and Wales	Greater London	Remainder of South East	North	Midland	East	South West	Wales	County boroughs*	Other urban districts*	Rural districts*
Cancer of Breast											
Females, 15–45											
1940–42	253	274	277	227	254	266	281	241	235	253	267
1943–45	265	287	275	244	283	243	287	222	255	258	272
Females, 45–65											
1940–42	236	261	261	217	239	225	248	197	218	240	236
1943–45	231	254	252	203	244	241	256	199	219	224	244
Females, 65–											
1940–42	158	162	170	149	163	154	164	142	156	159	158
1943–45	161	162	172	151	169	150	174	147	156	168	156
Cancer of Uterus											
Females, 15–45											
1940–42	174	122	182	199	161	173	177	231	190	192	172
1943–45	152	130	144	156	149	197	168	190	153	166	152
Females, 45–65											
1940–42	165	150	153	183	159	172	167	153	181	167	148
1943–45	157	137	147	175	152	164	154	165	175	159	144
Females, 65–											
1940–42	87	84	90	87	88	80	91	82	88	90	81
1943–45	85	81	84	89	86	91	81	77	91	85	81
Cancer of Other Sites											
Males, all ages											
1940–42	509	486	540	490	523	568	547	474	483	521	555
1943–45	506	474	542	494	520	564	535	477	486	519	555
Females, all ages											
1940–42	439	449	462	419	447	468	445	399	427	437	452
1943–45	447	455	465	436	449	464	457	402	436	446	458

* Excluding Greater London.

For mouth and œsophagus combined the Southern regions excluding London show high proportions amongst males at ages under 65, but not at more advanced ages ; and Wales also shows excess for each sex.

For stomach, as was shown for 1921–30, Wales gives much the highest proportions in both periods in almost all the sex-age groups. The North gives a slightly higher figure for females 15–45 and takes second place in most of the other groups. The relation with urbanisation is pronounced amongst males under 45 and females under 65, but disappears at higher ages.

For cancer of the respiratory system the urbanisation effect is predominant, Greater London proportions being double those of rural districts, with county boroughs and smaller towns intermediate ; and this probably accounts for the low rates in the predominantly rural regions of the East, South West and Wales.

For the breast, as was the case in 1921–30, the Southern regions show high proportions and the North gives low figures ; and the county boroughs rank lower than either Greater London or the rural districts at ages under 65.

For the uterus, Wales has very high proportions at ages 15–45 but not at later ages. The North ranks first at ages 45–65, but ranks below Wales and the East at ages 15–45. In 1921–30 the counties with significant excess at ages 25–65 were Durham, Northumberland, Yorkshire, Lincoln (Holland and Lindsey), Ely, Peterborough, Norfolk, and Nottingham, forming a continuous area, and also Anglesey, Glamorgan and Cornwall. At ages over 65 no important regional variation is evident in 1940–45, and only a few scattered counties showed significant excess in 1921–30. Greater London shows by far the lowest proportions at ages under 65 ; but elsewhere the towns show excess over rural districts. A similar relation with urbanisation was found also in 1921–30, when London's rate was 11 per cent. below that of the county boroughs.

Table LXXXII.—Deaths classed to Neoplasms of the Brain and Nervous System, with distinction of those specified as Glioma and other Malignant and Benign, and Mortality from all forms. 1936 to 1945.

	Number of deaths including non-civilians(1)										Rates per million living at all ages(3)	
	Glioma (2) (except "benign") No. 54a		Sarcoma. Other and undefined malignant No. 54b, c		Benign No. 56d		Nature unstated No. 57d		Total neoplasms			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1936 ...	236	178	154	126	60	67	424	464	874	835	45	39
1937 ...	242	181	166	114	77	64	434	421	919	780	47	37
1938 ...	286	177	159	146	69	58	402	409	916	790	46	37
1939 ...	232	189	139	110	87	97	492	476	950	872	48	40
1940 ...	290	205	119	97	91	102	442	406	942	810	47	37
1941 ...	306	200	137	91	108	113	396	378	947	782	47	36
1942 ...	341	225	111	78	86	112	404	338	942	753	47	35
1943 ...	326	222	134	99	100	128	383	356	943	805	46	37
1944 ...	312	229	122	101	106	107	374	355	914	792	45	36
1945 ...	364	252	148	112	114	140	430	393	1,056	897	51	41

(1) According to the classification in use from 1940 onwards. Prior to 1940 gliomas were classed by the International List as benign and when another disease was mentioned on a death certificate selection was according to rules which gave low precedence to benign neoplasms. This was remedied by the new method of selection which is in accordance with the preference expressed by the certifier. In 1939 the numbers assigned to the glioma group by the old rules were 180 males, 149 females, but there were 52 and 40 classed to other causes where the certifier considered the neoplasm to be the principal cause of death. This, together with the inclusion here of spinal cord and other parts of the nervous system, explains the differences between the numbers in this table and those in Table LV of the Review for 1938–39.

(2) Includes glioma of eye, and varieties set out in International List, but excludes gliomas when specified as benign.

(3) *See* note * below Table LXXIV.

Neoplasms of the Brain and Nervous System (Nos. 54, 56d, 57d).—Table LXXXII brings together the deaths from all forms of neoplasm of the central nervous system in each year 1936–45.* During 1936–39 the annual averages of deaths attributed to tumours of uncertain nature located in the brain and other parts of the nervous system were 438 of males and 442 of females. In 1940–42 the averages were 414 and 374 respectively, and in 1943–45 they had fallen further to 396 and 368. Comparing the latter period with 1936–39, the mean annual deaths from all neoplasms of stated nature increased from 854 to 1,039, whereas the number of unstated nature fell from 880 to 764, so it is evident that the specification of brain tumours improved during the interval, leading to a transfer of deaths from the unspecified to the malignant and benign

* No. 54b of the International List comprises sarcoma only, and the figures relating to it in Tables 6 and 21 are not comparable with those in the more comprehensive "Sarcoma" column for the nervous system in Tables LXXVIII and LXXIX.

groups. The apparent changes in mean annual deaths in 1943–45 compared with 1936–39 were :—

	Glioma	Other cancer	Benign	Unstated	Total
Males	+85	−20	+33	−42	+56
Females	+53	−20	+53	−74	+12

It would appear that the glioma and benign groups gained by the improved definition of these tumours, and that the trend can only be properly judged by the death-rates for the total of all groups, given in the last two columns of the table. These rates indicate no appreciable change during the years 1936–44, but higher rates than in any of those years were recorded in 1945.

Non-malignant and Undetermined Tumours of other Organs. (Nos. 56*a*, *b*, *c*, *e*, 57*a*, *b*, *c*, *e*).—Deaths from non-malignant tumours of sites other than the nervous system amongst males averaged 248 annually in 1936–39, 267 in 1940–42 and 265 in 1943–45 ; and for tumours of undetermined nature the corresponding figures were 137, 171, 142. The combined average death-rate was 19 per million in 1936–39, 22 in 1940–42 and 20 in 1943–45.

Deaths from ovarian and uterine tumours are almost always defined as to their nature, and the few of unstated type may be included as benign. The mean annual number of deaths from benign ovarian tumours (Nos. 56*a* and 57*a*) in 1936–39 was 255, falling to 199 in 1940–42 and 202 in 1943–45. The corresponding numbers for benign uterine tumours (Nos 56*b* and 57*b*) were 359, 309, 326. The total death-rate of females from non-malignant and undefined tumours of all parts except the nervous system averaged 43 per million in 1936–39, falling to 37 in 1940–42 and 1943–45.

58. **Rheumatic Fever.**—The numbers of deaths classified to this title in 1931–35 averaged 1,210 annually ; and in the four years 1936–39 the numbers were 1,154, 884, 1,104, 954. In the six years 1940–45 deaths numbered 851, 639, 503, 660, 623, 552. The Comparative Mortality Indices for males and females since 1936 have been as follows :—

	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945
Males ...	1·046	·772	1·000	·883	·789	·727	·549	·665	·765	·668
Females ...	·937	·810	1·000	·887	·802	·550	·458	·668	·548	·475

Mortality declined continuously from 1938 to 1942, but no further improvement occurred in the next three years.

Table LXXXIII gives the civilian death-rates at six age-groups, with distinction of deaths without mention of any heart involvement from those with mention of acute or subacute rheumatic heart disease as defined by the international list. At ages up to 25 about one-sixth of the deaths had no mention of heart affection, and thereafter the proportion increased to about one-half at 65 and over. The averages of the total death-rates in the six years at successive age-groups 0–, 5–, 15–, 25–, 45–, 65–, were for males 8, 31, 28, 15, 10, 9, per million, and for females 7, 38, 25, 13, 10, 9. The only significant sex difference, not accounted for by civilian selection, was the female excess at ages 5–15.

Table LXXXIV assembles the deaths by sex and age, with distinction of non-civilians for males, in 1940–42 and 1943–45 from rheumatic fever, chorea, pericarditis, mitral disease, other endocarditis specified as rheumatic, myocarditis specified as rheumatic, other and ill-defined heart disease said to be

rheumatic, and the total of these conditions of known rheumatic origin. Out of 27,787 deaths of males only 151 occurred amongst non-civilians in England and Wales. The mean annual totals in 1940–42 were 4,827 males and 7,289 females, and in 1943–45 they were 4,435 males and 6,822 females. Deaths from endocarditis of unspecified type and origin are also given.

Table LXXXV shows the death-rates in 1940–42 and 1943–45 from the different forms of heart disease, both acute and chronic, of rheumatic origin, and also from unspecified endocarditis which includes an unknown amount of chronic rheumatic heart disease. This last group can be assumed without risk of appreciable overstatement to be entirely rheumatic in origin at ages under 45, but at higher ages the proportion can only be estimated within limits, and it seems safe to define those limits as between 50 and 80 per cent. On that assumption the total death-rates per million from rheumatic heart disease were as follows :—

		0–	5–	15–	25–	45–	65 and over
Males	1940–42	13	60	104	155	464–523	1,477–1,717
	1943–45	8	65	91	140	404–450	1,248–1,446
Females	1940–42	10	76	136	249	540–593	1,625–1,865
	1943–45	9	79	111	222	471–512	1,426–1,623

Female mortality exceeds that of males by about 25 per cent. between ages five and 25, by 60 per cent. at 25–45, by 15 per cent. at 45–65 and by rather less at ages over 65.

Comparing 1943–45 with 1940–42, mortality decreased at each age period except 5–15, which showed a slight rise for each sex. The fall amounted to between 10 and 15 per cent. at each age-group over 15, except females aged 15–25, whose rate fell by 18 per cent. The rates imply that about two out of 1,000 children born may expect to die of rheumatic heart disease before reaching age 25, and another four by age 45.

Table LXXXIII.—Rheumatic Fever : Death-rates from Acute Rheumatism with and without Mention of Heart Involvement at Different Ages in each Year 1940 to 1945.

	Death-rate per million living (civilians)											
	1940		1941		1942		1943		1944		1945	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
58a, b, c. Acute rheumatic carditis—												
0–	6	10	10	5	8	4	6	4	3	6	9	6
5–	32	37	24	26	18	25	26	37	33	32	28	36
15–	23	31	26	22	18	18	27	24	23	20	27	13
25–	13	15	15	11	9	9	11	14	14	9	10	7
45–	8	10	7	6	4	5	6	5	6	7	5	5
65 and over	6	8	5	5	4	3	3	5	5	4	4	2
58d. Rheumatic fever without mention of heart—												
0–	1	1	1	1	1	1	1	1	2	1	2	1
5–	5	7	4	5	3	4	5	8	6	8	4	4
15–	3	5	2	3	5	1	4	4	4	2	5	4
25–	4	3	2	2	2	2	3	3	2	2	2	1
45–	5	6	4	4	4	3	1	3	4	3	3	3
65 and over	2	4	4	4	4	5	5	7	7	3	2	4
All forms C.M.I. All ages	**0·789**	**0·802**	**0·727**	**0·550**	**0·549**	**0·458**	**0·665**	**0·668**	**0·765**	**0·548**	**0·668**	**0·475**

Table LXXXIV.—Rheumatic Fever, Chorea and Rheumatic Heart Disease: Deaths at Different Ages of Civilians and non-Civilians from Diseases of known Rheumatic origin and from Endocarditis of unspecified cause, 1940–42 and 1943–45.

	Males				Females	
	1940–42		1943–45		1940–42	1943–45
	Civilian	Non-Civilian	Civilian	Non-Civilian		
58. Rheumatic fever						
0–	38	—	37	—	31	28
5–	248	—	290	—	292	349
15–	162	14	151	13	257	202
25–	234	12	170	6	284	236
45–	141	1	107	1	173	137
65 and over ...	42	—	45	—	64	63
All ages ...	**865**	**27**	**800**	**20**	**1,101**	**1,015**
87a. Chorea						
0–	3	—	1	—	1	—
5–	9	—	7	—	31	23
15–	9	1	5	—	25	20
25–	10	—	7	—	24	23
45–	5	—	12	—	27	22
65 and over ...	4	—	2	—	12	5
All ages ...	**40**	**1**	**34**	**—**	**120**	**93**
90a. Pericarditis						
0–	—	—	—	—	—	—
5–	4	—	8	—	5	14
15–	3	—	5	—	7	3
25–	9	—	7	1	6	12
45–	14	—	11	—	9	10
65 and over ...	4	—	5	—	1	9
All ages ...	**34**	**—**	**36**	**1**	**28**	**48**
92b: 1. Mitral disease						
0–	8	—	2	—	2	6
5–	136	—	128	—	177	146
15–	454	5	403	5	609	495
25–	1,544	22	1,391	22	2,921	2,751
45–	3,575	5	3,209	5	5,292	4,829
65 and over ...	4,369	—	4,062	—	6,625	6,607
All ages ...	**10,086**	**32**	**9,195**	**32**	**15,626**	**14,834**
92b: 2. Other Endocarditis specified as rheumatic						
0–	8	—	6	—	7	5
5–	117	—	133	—	164	155
15–	253	6	217	3	301	286
25–	613	5	610	10	939	802
45–	645	—	754	3	906	1,000
65 and over ...	381	—	470	—	590	736
All ages ...	**2,017**	**11**	**2,190**	**16**	**2,907**	**2,984**

Table LXXXIV—(*Contd.*)

		Males				Females	
		1940–42		1943–45		1940–42	1943–45
		Civilian	Non-Civilian	Civilian	Non-Civilian		
93b.	Myocarditis specified as rheumatic						
	0–	1	—	—	—	1	—
	5–	24	—	18	—	26	24
	15–	54	2	44	2	73	43
	25–	170	3	124	3	297	199
	45–	402	—	325	—	577	493
	65 and over ...	526	—	383	—	808	592
	All ages ...	**1,177**	**5**	**894**	**5**	**1,782**	**1,351**
95b.	Other and ill-defined rheumatic heart disease						
	0–	—	—	—	—	—	—
	5–	4	—	4	—	4	5
	15–	13	—	4	1	11	5
	25–	46	—	16	—	74	32
	45–	73	—	31	—	116	44
	65 and over ...	50	—	27	—	99	54
	All ages ...	**186**	—	**82**	**1**	**304**	**140**
	Total of known rheumatic origin						
	0–	58	—	46	—	42	39
	5–	542	—	588	—	699	716
	15–	948	28	829	24	1,283	1,054
	25–	2,626	42	2,325	42	4,545	4,055
	45–	4,855	6	4,449	9	7,100	6,535
	65 and over ...	5,376	—	4,994	—	8,199	8,066
	All ages ...	**14,405**	**76**	**13,231**	**75**	**21,868**	**20,465**
92c.	Endocarditis unspecified						
	0–	3	—	1	—	3	4
	5–	29	—	21	—	28	28
	15–	85	5	59	1	93	80
	25–	390	9	395	13	572	466
	45–	2,607	13	2,073	1	2,785	2,179
	65 and over ...	3,978	—	3,580	—	5,338	4,829
	All ages ...	**7,092**	**27**	**6,129**	**15**	**8,819**	**7,586**

Table LXXXV.—Acute and Chronic Rheumatic Heart Disease. Death-rates at Different Ages, 1940–42 and 1943–45.

	Mean annual death-rates per million living*											
	Males						Females					
	0–	5–	15–	25–	45–	65–	0–	5–	15–	25–	45–	65–
	58*a*, *b*, *c*. Acute rheumatic carditis											
1940–42	8	25	15	10	6	5	6	29	23	12	7	5
1943–45	6	29	14	7	5	4	5	35	18	10	6	4
	92*b*. Endocarditis stated or assumed to be of rheumatic origin											
1940–42	4	29	73	112	320	955	2	40	93	190	398	1,082
1943–45	2	30	65	104	294	836	2	36	80	177	364	1,002
	90*a*, 93*b*, 95*b*. Other and ill-defined chronic heart disease specified as rheumatic											
1940–42	—	4	7	12	37	117	—	4	9	19	45	136
1943–45	—	3	6	8	27	77	—	5	5	12	34	89
	Total heart disease of known rheumatic origin											
1940–42	12	57	95	134	364	1,077	9	73	126	221	450	1,224
1943–45	8	63	85	119	327	917	8	76	103	199	403	1,096
	92*c*. Endocarditis unspecified (including an unknown proportion of rheumatic origin)											
1940–42	1	3	9	21	199	800	1	3	10	28	179	801
1943–45	—	2	6	21	154	661	1	3	8	23	136	659

* Including deaths of non-civilians in England and Wales and based on total population inclusive of armed forces at home and abroad.

59a, b. **Rheumatoid Arthritis and Other Chronic Articular Rheumatism.**—Deaths attributed to rheumatoid arthritis and its synonyms were distinguished from 1939 onwards from other forms of arthritis, and their numbers were as follows :—

	1939	1940	1941	1942	1943	1944	1945
Males	315	331	365	376	321	320	321
Females	981	1,122	1,002	916	953	895	945

Table LXXXVI shows the death-rates at different ages in each year, the seven-year averages for males and females respectively being 2·3 and 4·4 per million at 25–45, 11 and 24 at 45–55, 39 and 79 at 55–65, 92 and 220 at 65–75, 212 and 471 at 75 upwards. Mortality at advanced ages was rather high in 1941–42 amongst males and in 1940–41 amongst females, and tended to decrease in 1944–45.

Deaths attributed to osteo-arthritis and other chronic articular rheumatism (No. 59b) in 1939–45, averaged 119 annually for males and 186 for females, the sex contrast being less pronounced than for rheumatoid arthritis. The death-rates at different ages in each year are shown in Table LXXXVI.

61. **Diabetes Mellitus.**—The effect on diabetes death-rates of the new method of selecting the underlying cause of death when more than one cause is mentioned on the certificate was fully discussed on pages 98–100 of the Review (Text) for 1938–39. It was shown that diabetes is very often rightly mentioned as merely a contributory cause when death of a diabetic under insulin control results from some other condition not directly connected with the diabetes. Since in such cases the primary classification is to the underlying cause stated in Part I of the certificate, the statistics now represent the mortality considered by the certifying physicians to have been *due to* diabetes, whereas formerly they tended rather to represent the total mortality of diabetics, owing to the high precedence given to diabetes by the selective rules. The effect on the death-rates was shown to increase with advancing age, and in 1938, standardized mortality *due to* diabetes was found to be about five-sixths of the rate produced by the rules then in use at ages under 55, and about five-eighths of that rate at ages over 55.

In this Review all rates for years prior to 1940 have been carefully corrected so as to be comparable as nearly as possible with the rates from 1940 onwards, using the dual tabulation at separate age-groups which was carried out in the four years 1936–39, in order to obtain conversion ratios applicable to years prior to 1936.

With the introduction of food rationing, special rations were made available to invalids and, at the suggestion of the Food Rationing (Special Diets) Advisory Committee of the Medical Research Council, the Ministry of Food undertook to collect the statistical data provided by these claims for extra rations. By 1945 the great majority of diabetics were claiming such rations, and the Ministry of Food's statistics showed that in December of that year there were 91,897 diabetics receiving special rations in England and Wales, of whom 40 per cent. were males and 60 per cent. females, and that between 50 and 60 per cent. were under insulin treatment. Deaths in that year said to be due to diabetes numbered 4,028, which suggests that the diabetic's risk of dying from the disease within a year is about 4 per cent., to which must be added the risk of dying from other causes, which is probably not much different from that for the non-diabetic of the same age.

Table LXXXVII shows the trend of death-rates at eight age-groups, and of the equivalent average death-rate at ages under 55 from 1931 to 1945. These are based on the total population and include deaths of non-civilians registered in England and Wales which numbered 41 in 1940–45. At ages 15–45 of males a few other deaths of men in the armed forces may have occurred abroad which were due to diabetes manifesting itself during foreign service, but the effect of these on the rates is believed to be negligible. In most cases arising during military service discharge followed and if death then occurred it was included amongst the civilian deaths. About 3,600 claims for pensions were made by diabetics whose disease was first discovered whilst in the services (1). The Comparative Mortality Index, also shown in the table, is based on civilian mortality and differs from the others in being influenced by the selective withdrawal of non-diabetics from the population.

---

(1) Hansard. Vol. 448, No. 75, p. 192. 2nd March, 1948.

Table LXXXVI.—Rheumatoid Arthritis and Other Articular Rheumatism: Death-rates by Sex and Age, 1939 to 1945.

	Death-rates per Million living*											
	MALES						FEMALES					
	0–	25–	45–	55–	65–	75 and over	0–	25–	45–	55–	65–	75 and over
59a. Rheumatoid arthritis												
1939 ...	—	2·2	13·1	37	98	202	0·1	5·1	26·9	86	240	489
1940 ...	0·6	2·2	12·0	43	95	200	0·5	3·4	27·0	103	255	590
1941 ...	0·5	1·9	10·8	40	105	272	0·3	5·6	25·1	75	242	504
1942 ...	0·3	3·2	10·7	47	102	239	0·9	3·3	23·9	75	201	455
1943 ...	0·7	1·7	8·2	35	88	214	0·5	4·6	18·8	78	217	429
1944 ...	0·7	1·7	12·1	35	82	194	0·7	3·9	22·7	68	193	397
1945 ...	0·7	3·2	10·7	39	77	165	0·7	5·1	21·5	66	192	431
59b. Other Chronic Articular Rheumatism												
1939 ...	0·3	1·1	4·6	14	39	125	0·3	0·7	4·3	13	31	119
1940 ...	0·1	0·5	3·3	13	36	76	—	1·2	2·8	12	52	121
1941 ...	0·1	1·1	5·0	14	38	73	0·1	0·6	1·8	13	37	138
1942 ...	—	1·1	2·5	12	30	74	—	0·4	3·9	8	31	129
1943 ...	—	1·4	3·3	10	29	93	0·1	0·4	2·8	11	34	120
1944 ...	—	2·0	0·8	9	26	71	—	0·6	5·5	8	35	119
1945 ...	—	0·8	4·4	7	32	98	—	0·1	2·0	10	34	109

* Including deaths of non-civilians in England and Wales, and based on total population inclusive of armed forces at home and abroad. Rates for 1939 conform with the classification in use from 1940 onwards.

Table LXXXVII.—Diabetes: Death-rates at different Ages by Sex, 1931 to 1945.

	Death-rates per million living*									C.M.I. all ages†
	0–	15–	25–	35–	45–	0–55 E.A.D.R.	55–	65–	75 and over	
Males—										
1931	12	22	27	33	67	30	195	507	705	0·956
1932	10	21	28	39	65	31	199	556	802	1·008
1933	13	26	28	31	56	29	202	550	809	1·002
1934	11	22	25	28	61	28	207	555	796	0·996
1935	11	16	22	26	62	26	203	578	834	0·988
1936	11	17	24	25	72	28	212	635	1,017	1·045
1937	12	18	24	35	63	29	210	619	978	1·053
1938	8	14	20	30	58	24	193	549	936	1·000
1939	9	18	19	30	61	26	196	588	1,024	1·041
1940	12	19	20	33	55	26	207	642	1,086	1·152
1941	11	19	19	35	57	27	192	555	809	1·021
1942	10	15	24	26	51	24	157	477	765	0·908
1943	8	18	20	33	51	24	136	419	676	0·842
1944	7	14	15	22	41	19	123	422	645	0·761
1945	5	12	15	21	47	19	108	382	660	0·721
Females—										
1931	11	24	27	40	96	37	327	713	792	0·942
1932	13	19	25	41	94	36	337	744	793	0·957
1933	12	24	26	43	94	37	327	765	826	0·972
1934	10	17	25	39	99	35	344	786	872	0·990
1935	9	20	25	35	96	35	352	807	914	1·008
1936	10	19	21	43	99	36	365	898	1,001	1·042
1937	12	20	20	36	106	36	343	857	1,054	1·045
1938	10	17	15	31	93	31	308	801	1,001	1·000
1939	12	18	21	31	98	34	352	832	1,047	1·051
1940	10	26	21	32	100	35	343	827	1,006	1·067
1941	9	23	22	33	83	32	302	760	932	0·969
1942	8	26	29	31	68	30	258	692	814	0·870
1943	6	25	30	36	80	33	243	649	772	0·843
1944	6	20	21	24	62	25	217	643	802	0·783
1945	7	16	20	28	59	24	215	663	725	0·770

* Including deaths of non-civilians in England and Wales and based on total populations in 1939–45 inclusive of armed forces at home and abroad. Rates for years 1931–39 conform with the classification method in use from 1940 onwards. (Conversion ratios for each sex-age group were obtained from a dual classification for years 1938 and 1939, and the resulting deaths in years 1931–37 were adjusted slightly to produce the totals at all ages as shown in Table 6.)

†Based on deaths of civilian males from 3rd September, 1939, and of civilian females from mid-1941.

At *ages under 55* the E.A.D.R. in successive three-year periods during 1931–45 averaged 30, 27, 26, 26, 21, per million living for males and 37, 35, 34, 32, 27 for females, showing a continuous fall, which was accelerated during the latter half of the period. Table LXXXVIII shows that a decline had been in progress between 1920 and 1939 at each age-group up to 55 amongst males, and up to 45 amongst females, most pronounced between ages 15 and 35. The rationing of food, particularly of sugar, might have been expected to accelerate this fall in death-rates after 1939, but the progression of rates during the next six years differed greatly according to sex and age. In the right-hand part of Table LXXXVIII the wartime rates are expressed as percentages of the corresponding rate in 1938–39, which was a period with remarkably low mortality in certain groups (*see* previous table). At the beginning of the war, owing perhaps to interruption in insulin treatment of many diabetics by the difficult conditions of that time, increases occurred, notably amongst males under 25 and females of 15–35. In 1942–43 the rates for the latter group rose to still higher levels, but females under 15 and both sexes at 45–55 registered rates well below pre-war levels. In 1944–45 the fall continued, but females aged 15–35 still had a mortality higher than in 1938–39, contrasting with all other groups whose rates showed decreases of between 10 and 40 per cent.

At *ages 55–65* mortality was not changing consistently during 1931–39, but after 1940 the rates for each sex fell continuously and by 1945 were less than two-thirds those of 1938–39. At *65–75* rates were rising in the pre-war period but began to fall after 1940, reaching levels by 1945 which for males and females were 33 and 19 per cent. below those of 1938–39. At *75 and over* rates were increasing very quickly before 1940, but a similar fall occurred during the war, amounting to 33 and 29 per cent. for the two sexes.

The significant features of the effect of rationing and other wartime conditions on diabetes mortality may be summarized as an immediate reversal of the upward trend amongst people over 65 to a downward one, a change from a stationary rate to a rapidly falling one at 45–65, a large increase in mortality during 1940–43 and absence of any improvement on pre-war rates amongst females aged 15–35, and a rapid fall in mortality after initial increases at other ages. The net improvement by 1945 in comparison with 1938, as shown by the C.M.I., was 28 per cent. amongst males (despite the unfavourable effects of civilian selection on this index), and 23 per cent. amongst females.

A possible explanation of the large increases in diabetes mortality of young women, and their failure to register improvement on pre-war rates by the end of the war, may be found in their dietary habits in the period between the wars and the great changes which resulted from employment in war services of various kinds. " Slimming " and subsistence on inadequate meals, which were so widespread amongst single young women, had probably kept up their tuberculosis rate and kept down their diabetes rate, but provision of more substantial meals in factories and the services may well have removed these tendencies, with a resulting increase in diabetes offset by decreases in anæmias, tuberculosis and other diseases aggravated by under-nutrition.

(86504) G 2

Table LXXXVIII.—Diabetes : Death-rates at different Ages in 1923–25, 1926–30, 1931–35 and 1938–39 per cent. of those in 1920–22 ; and in each year 1940 to 1945 per cent. of those in 1938–39.

	Per cent. of corresponding rate in 1920–22				Per cent. of corresponding rate in 1938–39					
	1923–25	1926–30	1931–35	1938–39	1940	1941	1942	1943	1944	1945
Males										
0–	71	86	79	64	150	138	125	100	88	63
15–	67	64	50	38	119	119	94	113	88	75
25–	72	60	47	36	105	100	126	105	79	79
35–	75	67	52	49	110	117	87	110	73	70
45–	76	70	68	65	92	95	85	85	68	78
55–	101	108	104	101	107	99	81	70	63	56
65–	107	122	134	140	113	98	84	74	74	67
75 and over	118	139	167	209	111	82	78	69	66	67
Females										
0–	69	69	69	69	91	82	73	55	55	64
15–	83	66	63	53	153	135	153	147	118	94
25–	75	67	60	45	117	122	161	167	117	111
35–	85	76	73	54	103	106	100	116	77	90
45–	95	97	98	98	105	87	72	84	65	62
55–	111	128	136	135	104	92	78	74	66	65
65–	118	141	179	193	101	93	85	79	79	81
75 and over	121	164	205	253	98	91	79	75	78	71

Table LXXXIX.—Diabetes : Comparative Mortality in Regions and different classes of Area, 1940–44.

	C.M.F.* (civilian)			C.M.F.* (civilian)	
	M.	F.		M.	F.
England and Wales ...	100	100	East	115	103
			South West	122	103
Greater London	85	84	Wales I	94	122
Remainder of South East	90	83	Wales II	98	85
North I	100	119			
North II	117	107	County boroughs† ...	102	102
North III	119	111	Other urban districts† ...	108	106
North IV	102	113	Rural districts†	97	100
Midland I	96	104			
Midland II	106	105			

* Estimated by the method described on pages 24–27.
† Excluding Greater London.

Table LXXXIX compares the mortality in 1940–44 in different regions and shows that there was no important difference between town and country areas. Greater London and the South East had low rates and North II and III had high rates for each sex ; North I and IV and Wales I gave high rates for females and the East and South West for males.

63b. **Exophthalmic Goitre.**—Deaths attributed to this disease in the five years 1935–39 numbered 155, 181, 157, 162, 174 amongst males and 1,211, 1,293, 1,299, 1,187, 1,206 amongst females. In the six years 1940–45 there were 164, 140, 119, 108, 85, 91 deaths of males, and 1,022, 817, 752, 717, 573, 564 of females. The sex-ratio in the period was 1 : 6·3.

Table XC shows that from 1931 to 1936 the C.M.I. was increasing for each sex, but in the next three years the index was almost stationary for males and definitely falling for females. After 1940 a rapid decline occurred until 1944 for males, and the fall continued until 1945 for females, bringing mortality down to 50 and 39 per cent. respectively of the maximal levels reached in 1936.

Comparing the trends at different ages, the averages of the annual rates in three periods 1931–33, 1936–38 and 1943–45, and the estimated mean annual rates in 1911–20 for females, were as follows :—

	15–	25–	35–	45–	55–	65–	75 and over
Males							
1931–33	3	5	9	14	21	15	7
1936–38	2	5	11	18	24	18	5
1943–45	1	1	3	10	16	13	6
Females							
1911–20	11	19	30	44	43	26	11
1931–33	19	30	59	114	130	112	44
1936–38	13	25	49	113	166	178	72
1943–45	4	9	17	49	77	92	45

A great increase in death-rates occurred between 1911 and 1931, and during the interval from 1931–33 to 1936–38 further increases occurred amongst males between ages 35 and 75 and females over 55, but mortality declined amongst females under 45.

The improvement in death-rates after 1938 was pronounced for every group except men over 75, and was relatively greater before than after age 45.

No satisfactory explanation for the rapid fall in mortality since 1939 has been suggested. The introduction of thiouracil on any sufficient scale to influence the death-rate came too late in the period under review to account for the fall. The surgical method of treatment for the milder type of case probably had its greatest vogue in some parts of the country in the years just before 1939, and for various reasons was less used during the war. This might be the explanation but if changes in treatment were responsible for the great increase during 1911–36, and the great fall since 1938, the distribution of mortality by region and class of area would be expected to have undergone considerable changes.

Table XCI shows the comparative mortality in regions and according to urbanisation in the five-year period 1940–44. The distribution is a remarkable one, mortality amongst females showing a steep downward gradient with increasing urbanisation from 127 in rural districts to 86 in county boroughs and 67 in Greater London. The regions with high female mortality were Wales, the South West and North IV, in other words the regions bordering the West Coast.

(86504) G 3

Table XC.—Exophthalmic Goitre : Death-rates by Sex and Age in each Year 1931 to 1945.

	Death-rates per million living*								C.M.I. All ages†
	0–	15–	25–	35–	45–	55–	65–	75 and over	
Males									
1931	0	2	4	7	13	18	12	11	0·772
1932	—	3	6	9	14	24	16	3	0·911
1933	0	4	5	10	14	20	16	8	0·917
1934	0	2	5	12	17	23	15	7	0·976
1935	—	3	5	8	18	23	20	12	0·973
1936	—	4	6	12	21	25	14	5	1·083
1937	—	2	6	8	17	24	19	6	0·986
1938	—	1	4	13	15	24	22	5	1·000
1939	0	1	4	8	19	28	25	12	1·014
1940	0	1	5	10	15	23	26	7	1·022
1941	—	2	4	6	15	22	15	17	0·890
1942	—	1	2	8	11	18	16	5	0·721
1943	0	2	1	4	9	20	16	6	0·695
1944	—	—	1	4	9	14	12	4	0·539
1945	0	1	1	2	11	14	12	8	0·571
Females									
1931	1	19	30	60	104	128	103	53	0·935
1932	1	18	31	61	116	136	113	35	0·982
1933	1	19	30	55	123	125	119	44	0·974
1934	1	16	26	55	120	152	139	50	1·018
1935	1	14	30	61	117	153	152	45	1·050
1936	1	14	26	55	123	165	174	83	1·120
1937	1	13	28	52	112	172	188	66	1·097
1938	1	12	21	40	105	160	173	67	1·000
1939	0	12	18	45	110	140	183	89	0·987
1940	0	10	17	32	83	134	148	86	0·837
1941	0	7	14	31	69	99	112	64	0·663
1942	1	6	11	29	59	94	95	74	0·604
1943	—	6	10	22	57	90	107	45	0·565
1944	—	2	9	17	47	65	88	49	0·447
1945	—	3	9	13	43	75	80	42	0·434

* Including deaths of non-civilians in England and Wales, and based on total populations inclusive of armed forces at home and abroad in 1939–45. Rates for 1931–39 conform with the method of classification from 1940 onwards.

† Based on deaths of civilian males from 3rd September, 1939, and of civilian females from mid-1941.

Table XCI.—Exophthalmic Goitre : Comparative Mortality in Regions and different classes of Area, 1940–44.

	C.M.F.* (civilians)			C.M.F.* (civilians)	
	M.	F.		M.	F.
England and Wales ...	100	100	East	121	102
			South West	144	130
Greater London ...	80	67	Wales I	162	166
Remainder of South East	98	89	Wales II	117	191
North I	88	89			
North II	122	103			
North III	98	84			
North IV	99	116	County boroughs† ...	91	86
Midland I	81	103	Other urban districts†	107	115
Midland II	100	102	Rural districts† ...	124	127

* Estimated by the method described on pages 24–27.

† Excluding Greater London.

This curious distribution of mortality from exophthalmic goitre is no new phenomenon, however. It was revealed as long ago as 1924*, but little attention was paid to it. Standardized death-rates for the ten-year period 1913–22 were then calculated for county aggregates of rural and urban areas, which were grouped according to proximity to the coast and geographical position. It was shown that rural mortality was twice that of London and 40 per cent. greater than in county boroughs, that rural and urban district rates were higher in coastal than inland areas, and that in each class of area mortality was greatest near the West Coast. Owing to the different regional groupings used, only a partial comparison with the 1940–44 indices is possible, but for the groups of areas shown below standardized rates have been obtained or calculated by weighting from the published figures and expressed in terms of the national rate (1·33 per 100,000) taken as 100. These indices can be compared with the C.M.F.'s for 1940–44 (estimated for *persons* by weighting Table XCI indices by the sex-ratio 1 : 6·4).

Groups of areas	S.D.R. for 1913–22 per cent. of England and Wales rate			C.M.F. for 1940–44 (weighted index for persons)
	Coastal	Inland	All	
London County	—	—	63	—
Greater London	—	—	—	69
County boroughs	90	92	92	87
Other urban districts	108	95	102	114
Rural districts	143	113	130	127
Lancashire and Cheshire (North IV)			127	114
South West			152	132
Wales I and II			120	165,181
Eastern parts of England (compared with North I and II and East regions)			94	89,106,105

The relation between urbanisation and the death-rate was almost the same in 1940–44, therefore, as it was 25 years before, and the large rural excess does not favour the view that overuse of surgery was responsible for the high mortality just before and at the beginning of the war. Whatever caused the rise and fall seems to have affected the whole population without changing the relative distribution appreciably. The excess of mortality in Wales was more pronounced in 1940–44 than in 1913–22, and the excess was still present in the western parts of England, though not quite so pronounced. These persistent features of the epidemiology of exophthalmic goitre merit attention in any attempt to unravel the ætiology of the disease.

63c. **Myxœdema and Cretinism.**—Deaths from these causes in 1935–38 averaged 204 annually, 24 of males and 180 of females. In successive years 1939–45 deaths of males numbered 29, 36, 31, 27, 18, 11, 23, and of females 210, 243, 179, 195, 170, 161, 174. There was an increase for both sexes in 1939–40, after which the usual level was resumed. Comparing the age distribution in 1939–40 with that in 1941–42, the excess appeared at each age group over 35, but at younger ages there were fewer deaths :—

* Stocks, P. *Biometrika*, 1924, XVI, 3–4, pp. 364–401. Table IX.

	0–	15–	35–	45–	55–	65–	75 and over	All ages
1939–40 ...	18	13	34	57	130	159	107	518
1941–42 ...	26	18	17	42	106	158	65	432

65a. **Addison's Disease not specified as Tuberculous.**—Owing to the difficulty of deciding whether or not Addison's disease without mention of tuberculosis should be considered as necessarily tuberculous in origin, a separate sub-group of Diseases of the Adrenal Glands was introduced at the Fifth Revision of the International List to take these deaths. In the table below they are shown alongside those with definite specification of tuberculosis, which are classified to No. 21a.

List No.	1938	1939	1940	1941	1942	1943	1944	1945
Males								
65a ...	77	77	67	81	63	50	40	52
21a ...	12	9	18	14	12	13	19	7
Females								
65a ...	112	117	108	136	137	100	83	99
21a ...	14	11	7	8	9	17	11	10
Total ...	215	214	200	239	221	180	153	168

Out of 1,590 deaths attributed to Addison's disease in the eight years, 191, or 12 per cent., had mention of tuberculosis. The remaining 1,399, if considered to be tuberculous and added to the total deaths from non-respiratory tuberculosis (34,727), would increase the death-rates from that group by about four per cent. The deaths were increased in numbers in 1941 and 1942, but thereafter declined below the totals of 1938 and 1939.

66b: 2. **Idiopathic Steatorrhœa.**—This group was distinguished from 1939 onwards, and the deaths in successive years attributed to the conditions included (sprue, psilosis, cœliac disease) were 34, 25, 57, 69, 65, 56, 78. In 1939–40, 58 per cent., and in 1945, 47 per cent., of the deaths were at ages under 15, the remainder being distributed uniformly over all ages.

70. **Rickets.**—Deaths attributed to rickets as the underlying cause numbered 222, 186, 132, 111, 98, 96, 91, 71, 79 in successive years 1931–39, and continued to decline during the war with little interruption, the numbers in 1940–45 being 56, 68, 37, 31, 34, 27. This disease is no longer an important cause of death.

73a. **Pernicious Anæmia.**—Table XCII shows the changes since 1931 in mortality from this disease, which still causes about 2,000 deaths annually. In addition to the deaths here classified, those due to sub-acute combined degeneration of the spinal cord, which are distinguished in No. 82 : 2 under diseases of the nervous system, probably belong for the most part to the same group, pernicious anæmia being the underlying condition though not stated as such. Of these the annual average number in 1935–39 was 95, and in successive years 1940–45 the numbers were 106, 80, 65, 70, 80, 86.

The equivalent average death-rates at ages under 55 in 1931–33 were about ten per million for males and 20 for females, and declined to seven and 14 respectively by 1936–39. During the war the male rate, based on total deaths in

England and Wales and total populations, declined further to four per million in 1944–45, and the female rate, after increasing to 17 in 1941, fell to ten. At ages 55–65 rates fell between 1931–33 and 1937–39 from about 125 to 88 for males, and from 167 to 119 for females, and during the war the fall continued, after initial increases in 1940–41, to the low levels of 60 and 83 in 1944, followed by increases in 1945. At 65–75 mortality has not changed consistently since 1931, apart from temporary increases in 1932 and in 1940–43. At 75 and over the upward trend of death-rates from 1931 to 1939 continued until 1941, in which year rates nearly double those of 1933 were registered. Rates then fell to about 400 for each sex in 1944, but increased again in 1945. This progression of deaths towards the most advanced age-group is what would be expected for a disease which is being kept in check over prolonged periods by therapeutic measures without complete cure being attained.

Table XCII.—Pernicious Anæmia : Death-rates by Sex and Age in each Year, 1931 to 1945.

	Death-rates per million living*									C.M.I. all ages.†
	0–	15–	25–	35–	45–	0–55 E.A.D.R.	55–	65–	75 and over	
Males										
1931 ...	0	1	4	10	35	9	123	240	233	1·097
1932 ...	0	2	4	9	44	11	132	285	263	1·252
1933 ...	0	1	2	13	44	11	119	243	248	1·138
1934 ...	0	2	3	9	36	9	113	236	254	1·073
1935 ...	0	2	3	8	29	8	101	253	262	1·043
1936 ...	0	2	2	9	26	7	85	242	312	0·996
1937 ...	0	2	1	7	26	7	88	214	300	0·928
1938 ...	0	1	4	7	24	7	81	246	334	1·000
1939 ...	1	1	4	6	26	7	94	248	324	1·039
1940 ...	0	1	2	8	32	8	95	285	416	1·199
1941 ...	0	2	3	7	27	7	97	322	470	1·291
1942 ...	0	1	2	7	16	5	93	311	404	1·186
1943 ...	0	0	4	4	23	6	69	262	400	1·057
1944 ...	—	1	1	5	17	4	60	234	403	0·950
1945 ...	0	0	1	6	15	4	78	246	440	1·040
Females										
1931 ...	0	3	10	28	66	19	164	270	190	1·094
1932 ...	0	3	9	30	76	21	178	309	274	1·251
1933 ...	0	2	11	29	63	19	158	300	265	1·160
1934 ...	0	3	7	28	65	19	147	284	301	1·132
1935 ...	0	3	10	23	56	17	139	287	314	1·095
1936 ...	0	2	7	25	60	17	115	265	301	1·015
1937 ...	1	3	8	20	46	14	127	291	353	1·037
1938 ...	0	2	8	19	43	13	106	287	372	1·000
1939 ...	0	3	8	17	49	14	123	299	400	1·120
1940 ...	0	2	8	19	47	14	145	323	446	1·176
1941 ...	0	4	8	23	58	17	138	380	509	1·320
1942 ...	0	3	8	19	41	13	134	330	495	1·184
1943 ...	—	2	5	13	38	11	97	316	491	1·057
1944 ...	—	1	5	11	30	9	83	289	399	0·908
1945 ...	0	2	3	9	40	10	95	299	505	1·031

* Including deaths of non-civilians in England and Wales and based on total populations in 1939–45 inclusive of armed forces at home and abroad. Rates for years 1931–39 conform with the classification in use from 1940 onwards. (Conversion ratios for each sex-age group were obtained from a dual classification for years 1937–39, and the resulting deaths in years 1931–36 were adjusted slightly to produce the totals at all ages as shown in Table 6.)

† Based on deaths of civilian males from 3rd September, 1939, and of civilian females from mid-1941.

The C.M.I. at all ages shows how little change has occurred in the total mortality, apart from unusually high levels in the two years 1932 and 1941, and the low level reached in 1944.

73 b, c, d. **Other Anæmias.**—Deaths from anæmia not identifiable as pernicious, and without any underlying condition specified as responsible, averaged 504 annually during 1931–35 and 503 during 1936–39. Of the 4,532 deaths in those periods 59 per cent. were of females. In the six years 1940–45 the deaths numbered 541, 584, 533, 558, 520, 568. The crude death-rate of females, which averaged 14 per million in each period 1931–33, 1934–36 and 1937–39, was slightly higher during the war, averaging 16 in 1940–42 and again in 1943–45. For all anæmias including pernicious the average crude rates for females in the five triennial periods were 68, 67, 67, 83, 74 per million. There is evidence, therefore, that mortality attributed to anæmias not described as secondary to any other disease was enhanced during the war amongst females, and the figures do not suggest that this could be accounted for by changes in diagnosis or fashions of certification.

74. **Leukæmia and aleukæmia.**—Deaths from all varieties of leukæmia, including those described as aleukæmia which are no longer considered as sufficiently distinctive to merit separate statistical analysis, averaged 762 annually during 1931–35* and 980 during 1936–39. In the six years 1940–45 they numbered 1,070, 1,004, 1,116, 1,193, 1,232, 1,347. In 1931–35 deaths of males formed 53 per cent. of the total, and in 1944 the proportion was 54 per cent.

Table XCIII shows that the C.M.I. at all ages increased steadily for each sex from about 0·7 in 1931 to unity in 1938, and showed no consistent change in the next three years, but the upward trend was resumed in 1942 and the C.M.I. reached 1·29 for males and 1·25 for females in 1945. The increase was 27 per cent. in the seven years after 1938 compared with 41 per cent. in the seven years preceding.

The death-rates per million at different ages in 1935, 1940 and 1945 are compared below :—

	0–	5–	15–	25–	35–	45–	55–	65–	75 and over	C.M.I.
Males										
1935* ...	28	18	18	15	12	27	35	56	33	0·808
1940 ...	38	19	18	18	22	35	52	59	66	1·033
1945 ...	45	21	29	25	21	38	61	104	71	1·291
Females										
1935* ...	20	14	10	9	15	23	38	39	36	0·876
1940 ...	35	13	13	11	19	25	38	57	45	1·043
1945 ...	35	18	14	15	25	26	54	61	44	1·251

In 1935 male death-rates exceeded those of females up to age 35, but at higher ages there was no consistent difference. By 1940 rates had increased considerably at ages under five, for males aged 35–65 and 75 upwards, and for females

* Prior to 1940 the International List sub-group entitled Aleukæmia (Lymphadenoma) included Hodgkin's Disease and Agranulocytosis, which diseases are now classified elsewhere. The present group No. 74 is comparable with the old title Leukæmia, after applying the conversion ratios shown in the Review for 1940, Appendix B.1 (Males 0·969, Females 0·971).

aged 65 and over. Between 1940 and 1945 further increases occurred in most of the groups. The principal change in the ten years was the appearance of a large excess of male over female mortality at ages over 45, the rates for men over 55 doubling during the interval whereas those of women of the same ages did not increase to the same extent. This suggests that the increase in death-rates from leukæmia cannot be accounted for merely by improving diagnosis.

Table XCIII.—Leukæmia and Aleukæmia : Death-rates by Sex and Age in each Year 1931 to 1945.

	Death-rates per million living*									C.M.I. all ages.†
	0–	5–	15–	25–	35–	45–	55–	65–	75 and over	
Males										
1931 ...	26	13	11	14	13	24	32	48	34	·695
1932 ...	23	15	12	11	15	26	38	46	30	·710
1933 ...	23	17	14	10	12	22	40	61	21	·735
1934 ...	29	16	14	14	21	23	41	62	46	·833
1935 ...	28	18	18	15	12	27	35	56	33	·808
1936 ...	30	16	20	12	16	25	54	65	48	·894
1937 ...	39	17	12	13	22	28	51	59	39	·904
1938 ...	34	19	15	15	22	30	47	86	41	1·000
1939 ...	38	18	16	16	16	28	57	76	37	·957
1940 ...	38	19	16	16	22	34	52	59	66	1·033
1941 ...	37	22	18	17	17	25	48	64	43	·973
1942 ...	36	27	17	16	21	30	54	65	59	1·119
1943 ...	42	26	16	16	21	38	56	79	70	1·218
1944 ...	39	24	14	15	22	36	70	79	63	1·215
1945 ...	45	21	21	18	20	38	60	104	71	1·291
Females										
1931 ...	21	12	7	10	11	24	28	28	14	·723
1932 ...	24	10	9	8	12	21	29	39	21	·761
1933 ...	17	12	9	11	14	19	37	35	20	·804
1934 ...	24	13	6	11	15	22	34	41	16	·825
1935 ...	20	14	10	9	15	23	38	39	36	·876
1936 ...	21	12	11	14	17	29	44	40	38	·987
1937 ...	23	12	9	13	15	26	35	48	28	·914
1938 ...	28	12	14	13	18	29	32	43	55	1·000
1939 ...	25	14	12	13	15	25	41	56	52	1·053
1940 ...	35	13	13	11	19	25	38	57	45	1·043
1941 ...	25	13	14	10	17	21	42	47	42	·964
1942 ...	32	12	12	13	19	32	45	45	36	1·075
1943 ...	25	16	15	14	15	31	41	57	44	1·084
1944 ...	27	16	14	13	20	32	47	56	41	1·147
1945 ...	35	18	14	15	25	26	54	61	44	1·251

* Including deaths of non-civilians in England and Wales, and based on total populations inclusive of armed forces at home and abroad in 1939–45. Rates for 1931–39 conform with the method of classification from 1940 onwards.

† Based on deaths of civilian males from 3rd September, 1939, and of civilian females from mid-1941.

77. **Alcoholism, and** 124, **Cirrhosis of the Liver.**—Table XCIV gives in full detail of age and associated cause, the deaths in each year 1940 to 1945 which were (*a*) attributed solely to alcoholism or to a condition stated to be due to alcoholism, and (*b*) attributed to some disease or injury with mention of alcoholism as an associated, but not underlying cause. It is assumed in the International List that mention of alcoholism in any association with cirrhosis of the liver implies that alcohol was the underlying cause, and all such deaths are distinguished in No. 124a, which appears in the lower part of the table. All other deaths with alcoholism stated as underlying cause have, since 1940, been classified to No. 77, and these are shown in the upper part of the table.

Table XCIV.—Deaths from or connected with Alcoholism, 1940 to 1945.

		Deaths of Civilians*												Non-Civilians	
		1940		1941		1942		1943		1944		1945		1940–45	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
77.	Attributed solely to alcoholism or to some disease stated to be due to alcoholism.														
	0– ...	1	—	—	—	—	—	1	—	—	—	—	—	1	—
	25– ...	2	1	1	1	4	1	1	2	—	1	—	—	4	—
	35– ...	10	9	19	6	10	2	7	3	3	3	1	—	6	—
	45– ...	26	12	18	9	8	4	11	3	14	4	3	3	4	—
	55– ...	31	18	17	12	18	6	17	4	17	3	6	4	2	—
	65– ...	13	14	12	11	8	3	10	1	6	3	5	1	—	—
	75 and over	2	5	3	3	1	2	1	1	2	—	3	—	—	—
	All ages ...	85	59	70	42	49	18	48	14	42	14	18	8	17	—
	Attributed to other causes with mention of alcoholism as contributory.														
	0– ...	1	—	—	—	2	—	—	—	2	1	1	—	5	—
	25– ...	7	—	5	2	3	2	2	1	3	—	—	—	9	—
	35– ...	30	8	23	6	9	3	8	2	14	2	4	2	13	—
	45– ...	46	16	39	14	28	5	14	8	21	1	24	9	4	—
	55– ...	56	24	52	27	33	7	27	15	38	7	27	3	—	—
	65– ...	51	23	37	12	19	4	30	4	19	2	29	3	—	—
	75 and over	14	10	11	5	7	5	6	1	5	2	2	1	—	—
	All ages ...	205	81	167	66	101	26	87	31	102	15	87	18	31	—
6.	Cerebro-spinal fever	—	—	—	—	—	—	1	—	—	—	—	—	—	—
13b.	Tuberculosis (respiratory) ...	—	—	2	—	1	—	1	—	—	—	1	1	—	—
24b.	Pyæmia	—	—	—	1	—	—	—	—	—	—	—	—	—	—
27a.	Bacillary dysentery (Sonne) ...	—	—	—	—	1	—	—	—	—	—	—	—	—	—
30c.	Syphilitic aneurysm of Aorta ...	—	—	—	—	—	—	1	—	—	—	—	—	—	—
30db.	Cerebral hypertension—specific ...	—	—	—	—	1	—	—	—	—	—	—	—	—	—
30dd.	Syphilis—unspecified	—	—	—	—	—	—	—	—	1	—	—	—	—	—
33.	Influenza	1	—	1	1	—	—	2	1	2	—	1	—	—	—
45–55.	Cancer	3	—	2	1	—	—	2	—	3	—	1	—	—	—
57d.	Cerebral tumours (unspecified) ...	—	—	—	—	1	—	—	—	—	—	—	—	1	—
58b.	Acute rheumatic carditis ...	—	—	—	—	—	—	—	—	—	1	—	—	—	—
61.	Diabetes mellitus	2	—	—	1	—	—	—	—	—	—	—	—	—	—
72a.	Purpura hæmorrhagica	—	—	1	—	—	—	—	—	—	—	—	—	—	—
80b.	Encephalitis (not stated) ...	—	1	—	—	—	—	—	—	—	—	—	—	—	—
83.	Intra-cranial vascular lesions ...	5	3	2	2	1	1	—	2	1	—	1	—	—	—
85.	Epilepsy	—	—	—	—	—	—	—	—	1	—	—	—	—	—
90.	Pericarditis	1	—	—	—	—	—	—	—	—	—	—	—	—	—
92b1.	Mitral valve disease	1	—	—	—	—	—	—	1	—	—	—	—	—	—
93a.	Acute myocarditis	1	—	1	—	—	—	—	—	—	—	—	—	—	—
93b.	Chronic myocarditis specified as rheumatic	—	—	1	—	—	—	—	—	—	—	—	—	—	—
93c1.	Cardiovascular degeneration ...	2	—	1	3	—	—	2	—	—	1	1	—	—	—
93c2.	Fatty heart	4	4	2	—	—	—	—	—	—	—	1	—	—	—
93c3.	Other myocardial degeneration ...	8	3	3	1	6	2	5	1	3	—	1	—	—	—
93d.	Myocarditis (unspecified) ...	2	3	1	—	—	—	—	—	—	—	—	—	—	—
94a.	Diseases of the coronary arteries	—	2	3	—	1	—	—	—	1	—	1	1	—	—
95a.	Functional heart disease ...	1	1	1	—	—	—	—	—	—	—	—	—	1	—
97.	Arteriosclerosis	—	1	2	—	1	—	3	—	2	—	2	—	—	—
99.	Mesenteric thrombosis	—	1	—	—	—	—	—	—	—	—	—	—	—	—
100a.	Varices	—	—	1	—	—	—	—	—	—	—	—	—	—	—
102.	High blood pressure	—	—	1	—	—	—	—	—	1	—	2	—	—	—
106a.	Acute bronchitis	3	—	1	—	1	—	2	2	1	—	1	—	—	—
106b.	Chronic bronchitis...	2	1	2	2	3	—	3	—	2	—	4	1	—	—
106c.	Bronchitis (unspecified)	1	1	—	—	—	—	—	—	1	—	—	—	—	—
107.	Broncho-pneumonia	6	1	5	—	—	1	1	1	—	—	2	—	—	—
108.	Lobar pneumonia	4	1	10	—	1	3	1	1	—	2	3	—	—	—
109.	Pneumonia (unspecified)	1	—	—	—	—	—	2	—	—	—	—	—	—	—
110b.	Pleurisy (unspecified)	—	—	—	—	—	1	—	—	1	—	—	—	—	—
112.	Asthma	—	—	—	1	—	—	—	—	1	—	—	—	—	—
114c1.	Fibrosis of lung	—	—	—	—	—	—	—	—	1	—	—	—	—	—
117a.	Ulcer of stomach	1	—	1	—	2	—	—	—	—	—	—	—	1	—
117b.	Ulcer of duodenum	—	—	2	—	—	—	1	—	—	—	—	—	1	—
118:1.	Gastritis	—	—	—	—	—	—	—	—	1	—	—	—	—	—
120a.	Gastro enteritis	—	—	—	1	—	—	—	—	—	—	—	—	—	—
122a.	Hernia	—	—	—	—	—	1	—	—	—	—	1	—	—	—
123b.	Other diseases of the intestines ...	1	—	—	—	—	—	1	—	—	—	—	—	—	—
124a.	Cirrhosis of the liver	125	51	95	46	62	14	49	20	58	9	45	11	5	—
125a.	Acute yellow atrophy of the liver	2	—	—	—	—	—	—	—	—	—	—	—	—	—
128.	Acute pancreatitis	—	—	—	—	1	—	—	—	—	—	—	—	—	—
130.	Sub-acute nephritis	—	—	—	—	—	—	—	—	1	—	—	—	—	—
131.	Chronic nephritis	3	1	—	—	—	—	—	—	—	—	—	—	—	—
131b.	Arteriosclerotic nephritis ...	—	—	1	—	1	—	—	—	1	—	—	—	—	—
131c.	Chronic nephritis	—	—	1	1	—	—	—	—	1	—	1	1	—	—

*Includes all females up to mid-1941.

Table XCIV—(*contd.*)

		Deaths of Civilians*												Non-Civilians	
		1940		1941		1942		1943		1944		1945		1940–45	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F
132.	Nephritis (unspecified)	—	1	—	—	—	—	—	—	—	—	—	—	—	—
133a.	Pyelonephritis	—	1	—	—	—	—	—	—	—	—	—	—	—	—
133b.	Nephrosis	—	—	1	—	—	—	—	—	—	—	—	—	—	—
137a.	Hypertrophy of prostate ...	—	—	—	—	—	—	—	—	1	—	1	—	—	—
152.	Cellulitis	—	—	—	—	—	—	—	—	—	1	—	—	—	—
156a.	Suppuration of wrist	—	—	—	—	—	1	—	—	—	—	—	—	—	—
163aa.	Suicide by corrosive substances ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—
163ad.	Suicide by liquid poison	—	—	—	—	—	—	—	—	—	—	1	—	—	—
164c.	Suicide by firearms and explosives	—	—	—	—	—	—	—	—	—	—	—	—	1	—
164d.	Suicide by cutting or piercing instruments	1	—	—	—	—	—	—	—	—	—	—	—	—	—
164fa.	Suicide by railways	—	—	—	—	—	—	—	—	1	—	—	—	—	—
168.	Homicide (other means)	—	—	—	—	—	—	—	—	—	—	—	—	2	—
169.	Run over on railway line ...	—	—	—	—	—	—	1	—	—	—	—	—	—	—
170, 171.	Road transport accidents ...	2	—	1	—	2	—	1	—	5	1	—	—	3	—
178.	Absorption of poisonous gas ...	—	—	—	—	—	—	—	—	—	—	3	—	—	—
179.	Acute accidental poisoning ...	—	—	—	—	—	—	—	—	—	—	1	—	1	—
182.	Accidental mechanical suffocation	—	—	—	—	—	—	—	—	—	—	2	—	1	—
183.	Accidental drowning	—	—	—	—	—	—	—	—	—	—	1	—	—	—
186.	Accidental injury by fall	6	1	8	2	5	1	5	—	7	—	4	2	5	—
	Other violence	16	3	14	3	10	1	3	2	4	—	5	—	9	—
	Total	**290**	**140**	**237**	**108**	**150**	**44**	**135**	**45**	**144**	**29**	**105**	**26**	**48**	—

* Includes all females up to mid-1941.

The various causes mentioned on certificates as underlying cause with alcoholism as merely contributory are given in full detail. Deducting cirrhosis of the liver, there were 315 such deaths of civilian males in 1940–45. Pneumonia was stated as the cause of 36 or 11·4 per cent. of these deaths whereas pneumonia without mention of alcoholism comprised only five per cent. of the deaths of civilian males in the six years. Bronchitis was the stated cause for 27 or 8·6 which differed little from the expected proportion. There were 11 deaths from road accidents with mention of alcoholism compared with five expected.

Table XCV continues the record of deaths classified to No. 124a, Cirrhosis of the Liver, said to be due to or associated with alcoholism. A reduction by one-half occurred between 1940 and 1942 in the number of deaths of males, while an even greater decrease occurred for females. The deaths classified to No. 124b, Cirrhosis of the liver *without* mention of alcoholism, are given below for comparison.

	1937	1938	1939	1940	1941	1942	1943	1944	1945
Males ...	643	681	667	699	573	487	482	431	464
Females ...	374	389	388	333	286	277	286	268	263

A sudden fall between 1940 and 1942 occurred also in this group for each sex, and amounted to 30 per cent. amongst males. In the next three years further slight decreases occurred in both groups. The correspondence between the trends of mortality suggests that a large proportion of the cirrhosis classified to No. 124b is of alcoholic origin. The C.M.I. for cirrhosis of the liver with or without mention of alcoholism had the following successive values in years 1938 to 1945 :—

	1938	1939	1940	1941	1942	1943	1944	1945
Males ...	1·000	·925	·993	·802	·652	·629	·571	·573
Females ...	1·000	·939	·818	·699	·604	·623	·556	·540

The sudden decrease in cirrhosis deaths early in the war suggests that restriction in the amount of alcohol available for consumption, and increase in its price, were probably important factors, since the deaths certified as due to alcoholism without cirrhosis of the liver showed an even greater decrease after 1940. This is apparent in the first columns of Table XCV, but continuity from years prior to 1940 was broken for this group owing to the inclusion from that date of deaths from *any* condition (other than cirrhosis) if alcoholism is stated to have been the underlying cause. The total death-rate returned as due to or associated with alcoholism, shown in the final column, was not affected by the change in classification ; and this rate fell from about 20 per million in 1927–29 to about 12 in 1932–40, and then dropped to five in 1942–44 and three in 1945.

Table XCV.—Deaths from or associated with Alcoholism : Death-rate from the Combined Causes, 1921 to 1945.

	Number of deaths (including non-civilians)										Death-rate per million persons†
	Alcoholism* 75(1) 77(2)		Returned as connected with alcoholism*								
			Cirrhosis of liver 124(*a*)		Heart diseases 90–95		Violent deaths 163–198		Other causes		Returned as alcoholism or associated therewith
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1921	127	55	100	54	41	17	61	11	125	56	17
1922	117	47	103	47	41	14	52	16	125	59	16
1923	104	47	98	54	22	12	46	16	106	57	15
1924	94	33	90	57	36	8	44	7	120	53	14
1925	95	55	87	49	25	19	34	6	90	48	13
1926	76	39	82	50	31	20	36	17	90	58	13
1927	84	24	162	101	40	22	37	14	176	92	19
1928	74	34	210	110	54	34	30	10	205	102	22
1929	85	49	175	83	69	38	41	11	206	75	21
1930	49	45	144	71	46	25	35	10	147	75	16
1931	40	41	162	99	45	35	24	2	136	45	16
1932	61	34	115	62	42	19	18	4	99	45	12
1933	43	30	115	77	52	19	24	10	79	35	12
1934	33	19	125	84	38	22	17	9	97	50	12
1935	50	23	139	62	46	30	17	8	91	57	13
1936	32	27	133	64	48	26	22	4	96	51	12
1937	54	48	135	72	51	29	29	12	62	43	13
1938	44	28	127	65	50	34	25	6	75	27	12
1939	51	29	111	50	52	30	31	12	57	36	11
1940	88	59	127	51	20	13	27	4	36	13	11
1941	77	42	95	46	13	4	30	5	36	11	9
1942	51	18	63	14	7	2	17	2	16	8	5
1943	50	14	49	20	7	2	14	2	22	7	5
1944	44	14	59	9	5	1	21	1	23	4	5
1945	19	8	46	11	4	1	22	3	21	3	3

* From 1940 onwards deaths from *any* cause certified as " due to alcoholism " are classified to No. 77 or No. 124(*a*) ; but this was not the case in years prior to 1940.

† Based on deaths of civilian males from 3rd September, 1939, and of civilian females from mid-1941.

(1) International List No. (Fourth revision).

(2) International List No. (Fifth revision).

International List Nos. for other causes above are identical in Fourth and Fifth revisions.

83. **Intra-cranial lesions of Vascular Origin.**—Deaths from these causes in the five years 1935–39 numbered 43,047, 44,407, 44,366, 44,697, 48,672, and in the six years 1940–45 there were 51,683, 48,173, 48,381, 48,945, 50,877, 52,169. Although the crude death-rate per million increased from 1,081 to 1,365, or by one-quarter between 1937 and 1945, the comparative mortality index fell in the same period from 1·018 to 0·958 for males and from 1·022 to 1·000 for females, indicating that the apparent increase was due entirely to changes in the age-structure of the population. No cause of death illustrates more forcibly how fallacious crude death-rates may be in the measurement of trends of mortality.

Table XCVI.—Cerebral Hæmorrhage, Embolism, Thrombosis and Ill-defined Paralyses : Death-rates by Sex and Age, 1931–35 and each year 1936 to 1945.

	Death-rate per million living*									C.M.I. all ages*
	0–	25–	35–	45–	55–	60–	65–	70–	75 and over	
	83a. Cerebral Hæmorrhage—MALES									
1931–35	2·7	14	79	402	1,127	2,053	3,930	6,690	11,937	1·148
1936 ...	3·2	11	76	395	1,035	2,020	3,462	6,004	11,254	1·066
1937 ...	1·9	12	79	385	1,067	1,943	3,381	5,931	10,647	1·043
1938 ...	2·3	17	71	386	1,039	1,866	3,312	5,718	9,941	1·000
1939 ...	2·5	20	79	425	1,127	1,969	3,486	5,727	10,102	1·029
1940 ...	4·7	19	79	410	1,135	2,104	3,608	5,682	10,643	1·071
1941 ...	4·7	25	79	375	1,027	1,915	3,326	5,098	9,783	·981
1942 ...	7·1	27	82	409	952	1,887	3,188	5,000	9,072	·948
1943 ...	7·9	40	90	375	1,009	1,760	3,179	4,989	8,487	·922
1944 ...	10·4	34	107	408	1,013	1,866	3,235	4,985	8,639	·946
1945 ...	7·4	30	96	399	1,011	1,778	3,201	5,004	8,706	·935
	83a. Cerebral Hæmorrhage—FEMALES									
1931–35	1·9	15	78	465	1,085	1,937	3,431	5,836	10,815	1·130
1936 ...	1·9	15	86	449	1,112	1,910	3,351	5,401	10,000	1·078
1937 ...	2·6	12	74	448	1,066	1,848	3,193	5,138	9,306	1·032
1938 ...	1·7	12	80	435	1,013	1,881	2,951	5,020	9,162	1·000
1939 ...	2·6	17	77	456	1,140	1,906	3,208	5,237	9,274	1·027
1940 ...	3·3	13	86	506	1,150	1,928	3,379	5,474	9,538	1·083
1941 ...	3·4	20	80	498	1,067	1,865	3,173	4,958	8,909	1·016
1942 ...	6·3	16	85	479	1,088	1,788	3,138	5,085	8,534	·999
1943 ...	6·9	23	88	482	1,141	1,739	3,005	4,971	8,687	·998
1944 ...	6·3	20	89	471	1,107	1,825	3,075	4,990	8,456	·992
1945 ...	5·4	20	85	460	1,001	1,756	3,035	4,904	8,663	·981
	83b, c. Cerebral Embolism, Thrombosis and Softening—MALES									
1931–35	0·7	5	17	90	298	622	1,336	2,528	5,289	·824
1936 ...	0·6	5	14	106	335	739	1,505	2,832	6,245	·949
1937 ...	0·6	3	15	96	357	779	1,469	2,931	6,197	·966
1938 ...	0·4	4	12	93	342	764	1,695	3,111	6,227	1·000
1939 ...	0·4	3	17	106	409	878	1,809	3,420	6,922	1·073
1940 ...	0·9	4	13	105	416	887	1,923	3,530	7,655	1·180
1941 ...	0·8	6	15	105	340	838	1,588	2,964	6,787	1·032
1942 ...	1·1	5	14	96	380	799	1,683	2,977	6,578	1·029
1943 ...	1·0	4	12	90	348	803	1,571	2,963	6,186	·983
1944 ...	1·2	7	13	98	347	819	1,691	2,753	6,462	1·005
1945 ...	0·8	3	12	92	366	829	1,663	3,088	6,452	1·027

*Excluding non-civilian males from 3rd September 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

	Death-rate per million living*									C.M.I. all ages*
	0–	25–	35–	45–	55–	60–	65–	70–	75 and over	
	83b, c. Cerebral Embolism, Thrombosis and Softening—FEMALES									
1931–35	0·4	4	17	90	249	512	1,101	2,082	5,144	·841
1936 ...	0·6	9	18	108	320	616	1,350	2,586	5,805	·994
1937 ...	0·3	4	15	96	316	638	1,283	2,553	5,840	·993
1938 ...	0·7	4	15	84	297	714	1,322	2,463	5,938	1·000
1939 ...	1·1	3	22	115	319	742	1,444	2,794	6,511	1·076
1940 ...	1·3	4	21	118	356	749	1,585	2,970	6,829	1·170
1941 ...	0·3	3	19	110	320	728	1,421	2,686	6,197	1·066
1942 ...	0·8	2	16	99	351	664	1,394	2,610	6,249	1·053
1943 ...	1·8	7	17	108	303	651	1,372	2,456	5,960	1·013
1944 ...	0·8	3	15	99	299	674	1,369	2,575	6,333	1·049
1945 ...	0·6	4	18	100	285	699	1,348	2,707	6,416	1·068
	83d, e. Hemiplegia, paralyses and cerebral effusions of unstated origin —MALES									
1931–35	1·0	0·6	4	17	51	111	230	409	881	1·277
1936–40	0·7	0·9	2	16	48	107	212	411	806	1·063
1941–45	0·7	0·5	2	12	39	86	181	322	644	·861
	83d, e. Hemiplegia, paralyses and cerebral effusions of unstated origin —FEMALES									
1931–35	0·9	0·9	4	17	52	98	181	355	777	1·383
1936–40	0·7	0·6	4	17	42	84	173	325	688	1·102
1941–45	0·5	0·6	3	13	40	77	148	288	596	·893

* Excluding non-civilian males from 3rd September 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

Table XCVI shows the death-rates at nine age-groups, and the C.M.I. at all ages, for different components of the International group during 1931–45. Conditions described as cerebral embolism, thrombosis and softening are separated as Nos. 83b, c, but they cannot be distinguished one from another satisfactorily from death certificates. To what extent the diagnostic distinction of these conditions from hæmorrhage can be relied upon is also doubtful. The trends of the death-rates between 1931 and 1938 were very different in the two groups, but there may have been an increasing tendency to certify the cause as embolism or thrombosis in cases of doubt. For hæmorrhage the C.M.I. in 1938 was 12 per cent. lower for each sex than in 1931–35, whereas for embolism, thrombosis and softening, increases of about 20 per cent. were indicated. The pre-war decline in hæmorrhage rates occurred in each age group except males of 25–35 and females of 35–45, and it was relatively greatest between ages 60 and 70. The increase in embolism and thrombosis rates occurred at ages over 55, being most pronounced at 60–65; but at younger ages the rates tended to fall along with those for hæmorrhage. This suggests that the opposite movements of the rates at ages over 55 are not to be explained by mere changes in diagnosis and certification, which would be expected to affect all age-groups.

Between 1938 and 1940, cerebral hæmorrhage mortality index rose by seven or eight per cent., and embolism, thrombosis and softening rose by 17 or 18 per cent. The increase occurred for every age-group except males of 70–75 and was very pronounced at ages under 25, rates for this age-group being doubled for both conditions. From 1940 to 1944, the increase in death-rates continued amongst males under 45 and females under 35 for each condition ; but rates remained stationary for hæmorrhage and declined for embolism and thrombosis amongst males aged 45–55 and females aged 35–45. At ages over 55 for men and over 45 for women, rates fell considerably for both conditions between 1940 and 1942, but changed little in the next two years.

In 1945, cerebral hæmorrhage rates improved slightly except amongst old people. Embolism and thrombosis rates also fell amongst males under 55, but increased for most of the higher age-groups of men and at almost every age amongst women.

It is apparent that after 1938 a considerable rise in mortality from cerebral hæmorrhage occurred amongst young people which began in 1939 and continued until 1943 or 1944 ; and in 1945 rates were still very much above the pre-war levels. Amongst older people mortality increased at the very start of the war, but declined after 1940, reaching levels well below those of pre-war years. The rates under consideration are for civilian males throughout the war, and for civilian females after mid-1941, and physical selection for the services accounts for some of the increases in male death-rates at ages under 45, but not for the increase amongst young women. Expressing the averages of the annual rates for No. 83a, cerebral hæmorrhage, in 1943–45 in terms of the corresponding average in 1936–38 taken as 100, the ratios are as follows :—

	0–	25–	35–	45–	55–	60–	65–	70–	75 and over
Males ...	347	260	130	101	97	93	95	85	81
Females ...	300	162	109	106	102	94	96	96	91

The numbers of deaths from all intra-cranial vascular lesions (No. 83) in the periods 1936–38, 1940–42, 1943–45 at different ages under 45, shown below with distinction of male civilians during the war, indicate that most of the increase at ages under 25 occurred amongst children.

	Children			Civilian males			Non-civilian males			Total females		
	Under 4 weeks	4 weeks–1yr.	1–	15–	25–	35–45	15–	25–	35–45	15–	25–	35–45
1936–38 ...	—	12	42	54	176	731	—	—	—	54	191	920
1940–42 ...	32	43	69	61	195	787	23	42	52	67	210	1,034
1943–45 ...	77	75	88	46	178	862	23	53	86	66	257	1,084

Deaths at 1–15 doubled, and for this no reason can be suggested. Deaths in the first four weeks of life increased from none in 1936–38 to 77 in 1943–45, and a facile explanation would be that injury at birth was being omitted from death certificates as cause of cerebral hæmorrhage to an increasing extent. The parallel rise from 12 to 75 at ages 4 weeks–1 year can hardly be so explained, however, since there was no corresponding fall in the deaths attributed to all injuries at birth at those ages, the numbers being 41 in 1938 and 37 in 1945. No reason for the increase amongst children of all ages is, therefore, apparent.

The total deaths of males aged 15–25 including non-civilians increased from 54 in 1936–38 to 69 in 1943–45, and of females from 54 to 66; and at ages 25–35 the total increased from 176 to 231 for males and from 191 to 257 for females. Civilian selection accounted, therefore, for only a part of the increase in death-rates at these ages.

Table XCVII.—Intra-cranial Vascular Lesions. Comparative Mortality in Regions and different classes of Area. 1940–44.

	C.M.F.* (Civilians)			C.M.F.* (Civilians)	
	M.	F.		M.	F.
England and Wales ...	100	100	East	91	100
			South West	97	97
Greater London	82	86	Wales I	106	105
Remainder of South East	92	94	Wales II	116	112
North I	123	118			
North II	116	113			
North III	117	116	County boroughs† ...	110	106
North IV	112	107	Other urban districts† ...	107	105
Midland I	98	96	Rural districts† ...	91	96
Midland II	97	100			

* Estimated by the method described on pages 24–27.
† Excluding Greater London.

Table XCVII shows the comparative mortality from intra-cranial vascular lesions as a whole during the five-year period 1940–44 in different regions and classes of area. The northern regions and Wales had high rates and the South East had low rates, other regions showing little variations. Urban areas outside Greater London gave higher rates than rural districts, the excess being more pronounced for men than women. The low rates for London and high rates for Wales II are curious features.

85, 86, 87e(1). **Epilepsy and " Convulsions ".**—Deaths attributed to epilepsy in the five years 1935–39 numbered 1,576, 1,677, 1,538, 1,515, 1,568 and in the six years 1940–45 there were 1,736, 1,751, 1,565, 1,376, 1,311, 1,233. For males the C.M.I. increased from unity in 1938 to 1·21 in 1940 and 1·31 in 1941, and then declined year by year to 0·96 in 1945. For females it rose to 1·15 in 1940–41 and then declined to 0·836 in 1945. The improvement in mortality of males between 1938 and 1945 is masked by the fact that the C.M.I. is based on civilian death-rates and epileptics were rejected or discharged from the services, with the result that only 6, 6 and 7 deaths of non-civilian males occurred in 1943, 1944 and 1945 respectively in England and Wales. Assuming no appreciable numbers of deaths to have occurred from this cause in the armed forces abroad in 1945, the total death-rates per million at different ages compare with the civilian rates in that year as follows :—

Males	0–	15–	25–	35–	45–	55–	65–	75 and over	All ages
Civilian rates	21	68	72	39	32	34	35	46	38
Total rates	21	36	33	31	31	34	35	46	31

The total rates show a remarkably steady death-rate between ages 15 and 75, whereas the civilian rates are fallaciously high between 15 and 45. The effect

of civilian selection on the crude rate at all ages is to raise it from 31 to 38, and the C.M.I. if freed from this distortion would be reduced to about 0·78. It is apparent that for males and females together mortality from epilepsy was about 20 per cent. less in 1945 than in the period just before the war.

Convulsions of undetermined origin in children under five were certified as the cause of 1,172, 1,071, 915, 867, 805 deaths in successive years 1936–39, and after a temporary arrest of the decline in 1940 and 1941, with 853 and 857, the numbers then fell even more rapidly, the progression being 717, 584, 519, 448. The reason for this rapid fall in the numbers since 1941 had been partly improving certification and partly the sending of enquiries concerning all deaths attributed to fits or convulsions without a stated cause. Convulsions of undetermined origin at ages over five accounted for 10, 8, 7, 6, 4, 3 deaths in the six years 1940–45.

87c. **Paralysis Agitans.**—Deaths attributed to this cause averaged 532 of males and 526 of females annually in 1935–38. In 1939 they increased to 622 and 636, and in 1940 were 597 and 702, after which the numbers fell back to 541 and 564 in 1942. Table XCVIII shows that the C.M.I., after rising in 1939–40, fell below pre-war levels for each sex in 1942–44, but increased again in 1945. The table shows that mortality is small at ages under 55, and increases to about four males and three females per 10,000 living at ages over 75, a male excess being present at each age from 45 onwards.

Table XCVIII.—Paralysis Agitans : Death-rates by Sex and Age in each year, 1937 to 1945.

	Death-rates per million living*						C.M.I. All ages†
	0–	35–	45–	55–	65–	75 and over	
Males							
1937	0	1	8	58	246	420	1·083
1938	0	1	9	59	194	360	1·000
1939	0	2	9	67	238	441	1·164
1940	0	1	8	56	241	413	1·144
1941	0	2	10	60	211	409	1·106
1942	0	2	7	56	208	325	0·995
1943	0	2	10	58	195	364	1·022
1944	0	2	8	53	213	343	1·028
1945	0	3	10	52	224	360	1·072
Females							
1937	0	2	5	43	186	289	1·010
1938	0	2	6	40	177	275	1·000
1939	0	3	9	48	188	327	1·069
1940	—	3	8	55	215	329	1·236
1941	0	2	10	42	170	287	1·019
1942	0	2	5	45	165	242	0·948
1943	0	1	5	34	167	276	0·941
1944	0	2	6	37	174	294	1·004
1945	0	2	9	48	186	319	1·125

* Including deaths of non-civilians in England and Wales and based on total populations in 1939–45 inclusive of armed forces at home and abroad. Rates for years 1937–39 conform with the classification in use from 1940 onwards.

† Based on deaths of civilian males from 3rd September, 1939, and of civilian females from mid-1941.

89. **Diseases of the Ear and Mastoid Antrum.**—Deaths from these causes in the five years 1935–39 numbered 1,466, 1,560, 1,439, 1,295, 1,189, and in the six years 1940–45 there were 1,009, 912, 928, 1,077, 1,016, 909. In 1935–37, when the annual deaths averaged about 1,500, 60 per cent. were of males, and in 1945 with only 909 deaths the proportion was the same.

Table XCIX shows that the C.M.I. began to fall after 1936 and that the downward trend was not disturbed by the onset of the war. Between 1936 and 1942 mortality decreased by 38 per cent. for males and by 43 per cent. for females, the improvement being due presumably to the introduction of sulphonamide therapy. After 1941 for males and after 1942 for females the rates increased again, but in 1945 they fell back again to slightly below the low levels of 1941 or 1942, owing perhaps to the beginning of penicillin treatment.

Table XCIX.—Diseases of Ear and Mastoid. Death-rates by Sex and Age, 1931–35 and each year 1936 to 1945.

	Death rates for million living*								C.M.I.* All ages
	0–	1–	5–	15–	25–	35–	45–	65 and over	
Males									
1931–35 ...	415	71	63	43	34	30	27	21	1·143
1936	685	88	52	44	29	29	28	27	1·231
1937	699	75	53	31	27	29	26	13	1·116
1938	532	76	41	33	26	24	26	23	1·000
1939	641	50	30	26	20	25	23	22	·909
1940	525	44	22	26	22	21	23	22	·796
1941	546	35	20	27	22	24	20	15	·758
1942	493	37	23	30	32	18	22	17	·801
1943	599	49	27	33	37	28	20	20	·952
1944	589	40	22	25	33	23	21	18	·864
1945	586	34	14	30	25	17	20	10	·755
Females									
1931–35 ...	295	67	57	25	15	15	17	18	1·228
1936	428	69	46	21	14	17	16	16	1·212
1937	461	57	44	15	15	15	16	16	1·149
1938	417	63	38	15	10	12	12	15	1·000
1939	439	42	27	18	12	12	12	17	·957
1940	342	43	21	10	9	10	12	14	·769
1941	377	36	17	11	7	10	11	10	·699
1942	340	25	22	12	7	8	9	14	·692
1943	387	26	25	13	13	6	10	10	·773
1944	446	31	21	12	9	6	10	9	·768
1945	439	22	14	11	9	5	10	8	·683

* Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

The behaviour of the death-rates at different ages presents great contrasts. Infants under one year suffered considerably greater mortality during 1936–39 than in 1931–35, the average rates being 639 for males and 436 for females compared with mean annual rates of 415 and 295 in the earlier period. In 1940–42 the rates were lower, averaging 521 and 353, but by 1944–45 they had again increased to about 590 and 440. The absence of any consistent improvement at this age contrasts with the great fall in mortality of older children.

In 1931–35 the death-rates of boys aged 1–5, girls 1–5, boys 5–15 and girls 5–15 were 71, 67, 63 and 57 per million respectively, and this descending order was maintained throughout. In 1936–38 the averages of the annual rates for the four groups were 80, 63, 49, 43, showing considerable improvement at ages 5–15 but not at 1–5. Between 1938 and 1941 the rates fell rapidly by about one-half, and the new average levels in 1941–44 were 40, 30, 23, 21 respectively. In 1945 another considerable fall occurred to 34, 22, 14, 14, the rates at ages 5–15 being less than a third of their pre-war values.

Adults of each age-group showed a similar fall in mortality between 1936 and 1940 or 1941, followed by a period with little change to 1944 ; but in 1945 no sudden improvement such as was shown by the children's rates occurred except amongst men aged 25–45 and over 65.

90b, 91, 93a. **Acute Heart Disease not specified as rheumatic.**—Deaths from acute or subacute endocarditis attributed to bacterial infection (Nos. 91a, b) in the five years 1935–39 numbered 1049, 1024, 1005, 1043, 959, and in the six years 1940–45 there were 908, 930, 931, 927, 835, 677. The crude death-rate of males was 26 per million in each year 1935–38 and 24 in 1939, and that of females averaged 24. In 1940–43 the total deaths of males ranged from 437 to 476, and of females from 432 to 494, but in 1944 they fell to 410 and 425, and in 1945 to 368 and 309, this improvement being contemporaneous with the introduction of penicillin.

Deaths classified to acute and subacute endocarditis without specification of bacterial or rheumatic origin (No. 91c), which numbered 100 or more in pre-war years, declined from 1939 onwards to 16 in 1945, this being due to the sending of enquiries concerning all deaths without statement of a cause of such endocarditis.

Pericarditis and acute myocarditis, not specified as rheumatic (Nos. 90b, 93a) accounted for between 400 and 550 deaths annually during 1939–45, without evidence of any consistent trend. It is probable that a large proportion of the pericarditis deaths belong more properly to the rheumatic heart diseases, although the death certificates provide no evidence of it, and at the next revision of the International List it may be thought justifiable to add them to that group.

93 c, d, 94, 162 a, c. **Degenerative Heart Disease and Senility.**—In Table C are shown the death-rates per million living at ten separate age-groups in each year 1931–45 from two groups of degenerative heart disease, which are closely allied and to a considerable extent confused in their nomenclature. The first group, No. 94, comprises (*a*) diseases in the description of which the word coronary is used, and (*b*) conditions causing death which are described as angina pectoris or a synonymous term without mention of coronary disease. The latter sub-group was distinguished from the rest in the Fifth Revision of the International List in order to show how much of the total assumed to be coronary disease consists of the indefinite description angina pectoris. In 1939 the proportion was for males 1,679 out of 11,931 or 14 per cent., and for females 684 out of 5,925 or 12 per cent., but by 1945 the sub-group of diseases specified as coronary showed a large increase in frequency whereas the use of the term angina pectoris had become less frequent, contributing only eight and seven per cent. to the totals for males and females respectively.

The second group, No. 93c.1, comprises conditions described as arteriosclerotic heart disease, a term not often used on death certificates in England and Wales, cardio-vascular degeneration and its synonyms, myocarditis or myocardial degeneration with mention of either arteriosclerosis or high blood pressure, and

hypertensive heart disease. Some of these may differ from coronary disease in nothing but nomenclature, and the groups are best considered together. The difficulty is not entirely overcome in this way since the large group of myocardial degeneration without mention of coronary disease, angina pectoris, arteriosclerosis or hypertension (No. 93c.3, shown in Table CI) may contain conditions which, had they been more fully described, would have fallen within one or other of the above groups. Diagnosis of these degenerative conditions affecting the heart is difficult in many cases, and the nomenclature used to describe them when diagnosed is continually changing, and it is necessary to keep these facts in mind in attempting to interpret the statistics.

Table C.—Coronary, Arteriosclerotic and Hypertensive Heart Disease, and Myocarditis with Arteriosclerosis : Death-rates by Sex and Age in each Year 1931 to 1945.

	Death-rates per million living*									
	0–	25–	35–	45–	50–	55–	60–	65–	70–	75 and over
	94. Diseases of Coronary Arteries and Angina Pectoris—MALES									
1931	–	8	55	158	347	578	912	1,373	1,814	2,005
1932	0	6	63	224	398	640	950	1,588	1,998	2,257
1933	0	6	67	252	484	775	1,151	1,763	2,386	2,815
1934	0	7	78	264	518	889	1,313	1,964	2,564	3,138
1935	1	12	81	294	611	970	1,448	2,095	2,974	3,663
1936	0	7	92	316	642	1,088	1,682	2,369	3,269	3,968
1937	—	14	102	332	732	1,165	1,769	2,548	3,549	4,434
1938	1	12	104	364	707	1,265	1,948	2,857	3,849	4,635
1939	0	13	124	417	873	1,515	2,250	3,082	4,301	5,196
1940	1	13	121	443	886	1,486	2,283	3,276	4,337	5,489
1941	0	11	127	428	814	1,434	2,128	3,128	3,924	5,095
1942	0	15	125	442	854	1,473	2,131	3,154	4,122	5,287
1943	1	22	149	469	980	1,618	2,430	3,412	4,294	5,392
1944	1	20	161	554	1,027	1,714	2,676	3,814	4,925	5,847
1945	0	19	168	542	1,045	1,838	2,924	4,066	5,256	6,477
	94. Diseases of Coronary Arteries and Angina Pectoris—FEMALES									
1931	—	3	10	36	55	136	305	505	751	1,022
1932	—	3	13	30	85	163	330	605	846	1,164
1933	—	3	16	49	97	159	430	663	987	1,370
1934	—	1	20	40	109	234	429	814	1,183	1,617
1935	0	4	20	59	122	250	491	894	1,357	1,859
1936	0	3	18	53	148	269	564	963	1,459	2,032
1937	1	7	19	63	141	287	580	1,084	1,664	2,160
1938	1	5	23	76	149	329	700	1,159	1,764	2,531
1939	1	3	28	76	152	362	752	1,341	1,915	2,923
1940	1	3	30	91	179	387	780	1,343	2,162	2,930
1941	0	7	23	67	172	369	694	1,306	1,892	2,781
1942	0	5	27	77	147	406	735	1,338	1,955	2,912
1943	—	4	25	97	194	377	752	1,532	2,088	3,007
1944	0	5	26	89	202	404	851	1,568	2,254	3,222
1945	0	4	23	99	234	447	893	1,680	2,601	3,392

*Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

Table C.—(*contd.*)

	Death-rates per million living*									
	0–	25–	35–	45–	50–	55–	60–	65–	70–	75 and over
	93 c.1. Cardiovascular Degeneration—MALES									
1931	—	0	9	46	113	260	781	1,604	3,485	7,855
1932	—	1	7	50	133	324	762	1,838	3,598	8,511
1933	—	1	10	53	147	326	807	1,876	4,020	9,271
1934	—	2	12	63	148	328	884	1,940	4,168	9,081
1935	—	0	13	59	143	364	922	2,000	4,227	9,683
1936	—	1	16	70	191	429	1,059	2,112	4,589	10,929
1937	—	2	14	64	174	386	1,065	2,177	4,618	11,511
1938	0	0	10	64	190	449	1,104	2,231	4,850	11,974
1939	—	2	13	64	196	420	1,105	2,399	5,094	12,979
1940	0	1	13	64	212	510	1,198	2,657	5,002	13,061
1941	0	3	19	62	175	506	1,105	2,379	4,610	12,019
1942	—	3	12	65	158	423	980	2,364	4,402	11,228
1943	0	1	14	53	152	466	949	2,117	4,204	11,460
1944	0	4	10	53	142	423	1,072	2,211	4,489	11,482
1945	—	3	12	54	158	426	1,029	2,242	4,538	11,788
	93 c.1. Cardiovascular Degeneration—FEMALES									
1931	—	1	4	29	75	191	455	931	2,102	5,864
1932	—	0	5	24	73	178	472	1,011	2,303	6,372
1933	0	1	6	25	85	174	486	1,059	2,383	6,876
1934	—	—	5	28	73	205	556	1,181	2,453	6,639
1935	—	1	7	31	103	227	550	1,211	2,783	7,530
1936	0	1	10	34	112	220	598	1,329	3,050	8,342
1937	—	1	13	31	103	230	614	1,447	3,171	8,954
1938	—	2	12	42	132	238	629	1,432	3,231	8,864
1939	—	2	6	35	109	251	699	1,473	3,452	9,877
1940	—	1	9	41	111	279	747	1,687	3,506	10,019
1941	—	2	9	47	113	279	636	1,517	3,229	9,028
1942	—	1	10	41	114	242	602	1,382	3,020	9,022
1943	—	1	9	36	85	225	641	1,344	2,939	9,154
1944	—	1	8	23	101	194	583	1,420	3,095	9,293
1945	—	2	6	38	106	249	610	1,440	3,301	9,757

* Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

The C.M.I. for *coronary disease and angina pectoris* was increasing year by year for each sex before the war, the male index rising from 0·620 in 1933 to unity in 1938, and the female index rising from 0·559 to unity. This continued until 1940 but mortality was lower in 1941, after which the upward trend continued, the indices being as follows:—

	1935	1938	1939	1940	1941	1942	1943	1944	1945
M.	0·773	1·000	1·126	1·170	1·099	1·129	1·222	1·346	1·438
F.	0·745	1·000	1·078	1·170	1·084	1·127	1·198	1·278	1·384

The increase in ten years amounted to 86 per cent. for both males and females, a parallelism which is remarkable when the high sex-ratio and change in that ratio according to age are considered. Expressing three-year averages of the rates in Table C for males in terms of the corresponding average rate for females taken as 100, the sex-ratios for coronary disease and angina pectoris were :—

Male per cent. of female rates at ages

No. 94	25–	35–	45–	50–	55–	60–	65–	70–	75 and over
1931–33 ..	222	474	551	519	435	283	266	240	199
1934–36 ..	325	433	575	467	391	299	241	220	196
1937–39 ..	260	471	518	523	403	294	237	219	187
1940–42 ..	*260*	*466*	559	513	378	296	240	206	184
1943–45 ..	*469*	*646*	549	484	421	322	236	208	184

Ignoring the ratios at ages under 45 in 1940–45, which were influenced by civilian selection, male mortality attributed to this cause is about 2½ times that of females at 25–35 and 65–70, 3 times at 60–65, 4 times at 55–65, 4½ times at 35–45, 5 times at 50–55 and 5½ times at 45–50. At ages over 70 it is about twice the female rate.

Expressing the triennial averages as percentages of the corresponding figure for the preceding period of three years, the variations in the upward gradient for coronary disease and angina pectoris are shown below :—

	C.M.I.	35–	45–	50–	55–	60–	65–	70–	75 and over
Males									
1934–36 ..	—	136	138	144	148	147	136	142	152
1937–39 ..	131	131	127	131	134	134	132	133	132
1940–42 ..	111	*113*	118	110	111	110	113	106	111
1943–45 ..	118	*128*	119	119	118	123	118	117	112
Females									
1934–36 ..	—	149	132	160	164	139	151	155	155
1937–39 ..	133	121	141	117	130	137	134	134	138
1940–42 ..	114	114	109	113	119	109	111	112	113
1943–45 ..	114	93	121	127	106	113	120	116	112

Comparing the relative increases for age-groups between 45 and 70, in the first interval from 1931–33 to 1934–36 this was more pronounced amongst men aged 50–65 and women aged 50–60 than at other ages ; and in the next interval it continued to be slightly greater for men 55–65, and women aged 45–50 and 60–65 also showed excess. During the war years the rise in mortality was retarded considerably for almost all groups and was very uniform for men, the highest rates of increase being at ages 45–50 and 60–65. In the last interval women aged 45–55 and 65–75 showed greater increases than at other ages.

Table C1.—Myocardial Degeneration and Senility without mention of Hypertension or Arteriosclerosis: Death-rates by Sex and Age in 1931–33, 1934–36, 1937–39, 1940–42 and 1943–45.

	Death-rates per million living*.									
	0–	25–	35–	45–	50–	55–	60–	65–	70–	75 and over
	93c.2. Fatty degeneration of heart.									
Males.										
1931–1933 ..	0	5	20	59	109	156	230	373	474	530
1934–1936 ..	0	3	14	42	77	120	183	251	340	360
1937–1939 ..	1	3	14	35	69	99	153	213	238	255
1940–1942 ..	0	4	10	27	43	68	96	146	160	178
1943–1945 ..	0	3	8	21	33	40	71	91	100	106
Females										
1931–1933 ..	1	7	23	56	105	170	263	385	442	571
1934–1936 ..	0	5	18	49	82	129	210	305	391	381
1937–1939 ..	0	4	17	46	70	110	173	237	259	291
1940–1942 ..	0	3	13	31	50	80	123	164	226	223
1943–1945 ..	0	2	8	17	28	49	86	101	135	146
	93c.3, 93d. Other myocarditis (not acute, hypertensive or arteriosclerotic)									
Males										
1931–1933 ..	4	18	93	271	526	977	1,979	4,103	8,604	21,834
1934–1936 ..	5	21	98	292	601	1,105	2,239	4,463	9,345	24,217
1937–1939 ..	6	23	96	302	652	1,260	2,596	4,881	10,154	27,804
1940–1942 ..	5	35	94	294	656	1,318	2,542	4,835	9,872	28,798
1943–1945 ..	4	33	78	218	486	1,043	2,084	4,122	8,444	24,979
Females										
1931–1933 ..	5	24	91	244	433	862	1,798	3,612	7,668	21,890
1934–1936 ..	6	26	94	236	458	878	1,923	3,908	8,137	23,751
1937–1939 ..	7	28	102	262	488	915	1,964	3,949	8,504	26,280
1940–1942 ..	4	28	84	232	428	833	1,758	3,745	8,200	26,675
1943–1945 ..	4	20	59	162	335	669	1,411	3,057	7,040	23,794
	162a, c. Senility without mention of psychosis									
Males										
1931–1933 ..	—	—	—	—	1	5	43	290	2,140	16,526
1934–1936 ..	—	—	—	—	1	4	32	260	1,875	14,519
1937–1939 ..	—	—	—	—	1	2	32	203	1,634	13,616
1940–1942 ..	—	—	—	—	—	—	2	237	1,636	13,340
1943–1945 ..	—	—	—	—	—	0	2	168	1,332	10,982
Females										
1931–1933 ..	—	—	—	—	1	7	49	255	1,997	16,874
1934–1936 ..	—	—	—	—	1	4	37	235	1,707	14,484
1937–1939 ..	—	—	—	—	1	6	24	178	1,445	13,216
1940–1942 ..	—	—	—	—	—	1	1	194	1,424	13,034
1943–1945 ..	—	—	—	—	—	—	3	150	1,132	10,912

* Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

By comparing the death-rates in 1931–35 with those in 1921–30, Table LXXI of the Review for 1938–39 showed that mortality attributed to coronary disease at ages 45–55 of men increased 3·1 times whereas at 55–65 it increased 2·7 times. The former group, aged 45–54 in 1931–35, were between the ages of 24 and 37 in 1914 and between 28 and 41 in 1918, and bore the brunt of the first world war, and it is of interest to see whether they continued after 1931–35 to suffer a higher mortality. The percentage increases, using average rates for the second interval, were as follows, when compared with the previous period :—

	45–	50–	55–	60–	65–	70–75
1921–30 to 1931–35	+211	+213	+178	+164	+177	+195
1931–35 to 1936–45	+ 81	+ 82	+ 90	+ 92	+ 81	+ 78

The greatest increases in the second interval occurred at 55–65, which is consistent with the view expressed above, since the group of men in question were on the average $7\frac{1}{2}$ years older in 1936–45 and fell within those age limits for the most part.

Table C shows also the trend of death-rates from the causes classified to No. 93c.1, *cardio-vascular degeneration*, some of which, as stated above, may be closely allied, or in some instances identical except in description, with coronary disease. In each age-group the death-rate was increasing between 1931 and 1940 or 1941. At ages up to 75 the rates then decreased considerably until 1943 or 1944, and increased again ; but at 75 and over the rise was resumed after 1942. At most ages the average rates in 1943–45 were lower than in 1937–39.

It is possible that the increase in coronary disease rates has been exaggerated by transfer from this group by gradually changing fashion in nomenclature, but of this there is no proof. It is a possibility which cannot be overlooked, and the rates of change for the *combined causes in Nos. 93c.1 and 94*, calculated by expressing the averages of the death-rates in three years as percentages of the corresponding averages in the preceding period, are shown below.

	35–	45–	50–	55–	60–	65–	70–	75 and over
Males								
1934–36	138	136	139	140	136	124	126	124
1937–39	126	122	127	128	126	123	121	125
1940–42	114	115	108	112	106	111	101	103
1943–45	123	115	113	111	113	105	105	101
Females								
1934–36	148	127	142	140	129	134	131	124
1937–39	126	132	118	121	125	124	124	126
1940–42	107	113	106	116	106	108	104	104
1943–45	90	105	110	97	103	105	103	103

The retardation of the upward movement of the total death rates after 1939 is even more apparent than for coronary disease alone ; and amongst men over 70 and women under 45 and over 60 the increase diminished suddenly from 8–10 per cent. to one or two per cent. annually. At other ages it diminished from about 12 per cent. to between three and five per cent. annually.

Table CI gives the mean annual death-rates in the five triennial periods attributed to fatty degeneration of the heart (No. 93c.2), other chronic myocarditis or myocardial degeneration without mention of hypertension or arteriosclerosis (Nos. 93c.3, 93d) and senility without mention of psychosis (Nos. 162a, c). Mortality said to be due to *fatty degeneration* fell rapidly and continuously at every age-group with appreciable mortality throughout the whole period, being only one-third to one-fifth of 1931–33 levels by 1943–45. *Other myocardial disease* registered increases between 1931 and 1939, but with

the onset of the war decreases occurred in 1940–42 for all groups between ages 35 and 75 with the exception of males between 50 and 60. Amongst very old people slight increases continued, but the rates fell sharply in 1943–45. In this last period every age-group over 25 showed a pronounced decrease, ranging from one-third to one-seventeenth when compared with the rates of 1940–42. *Senility* rates, which were falling in the pre-war period, showed little change in 1940–42 and then fell sharply.

Table CII.—Coronary Disease, Myocardial Degeneration and Senility : Comparative Mortality in Regions and different classes of Area. 1940–44.

	Comparative mortality figure (civilians)*					
	93c. Myocardial degeneration		94. Coronary disease, angina pectoris		162. Senility	
	M.	F.	M.	F.	M.	F.
England and Wales	**100**	**100**	**100**	**100**	**100**	**100**
Greater London	107	114	127	124	60	63
Rest of South East ..	92	91	99	104	91	95
North I	90	94	106	118	114	117
North II	111	104	103	114	80	82
North III	105	102	107	107	90	92
North IV	112	107	97	87	137	127
Midland I	100	100	85	84	107	104
Midland II	97	96	80	79	105	104
East	89	91	84	93	124	132
South West	95	94	92	92	99	106
Wales I	89	91	88	84	129	124
Wales II	86	81	94	97	92	98
County boroughs†	114	110	100	94	107	106
Other urban districts† ..	95	93	97	98	115	113
Rural districts†	85	86	82	91	98	104

* Estimated by the method described on pages 24–27. † Excluding Greater London.

The fact that death-rates from causes included in the coronary, arteriosclerotic and hypertensive heart groups were still rising after 1939, whilst those from causes described as myocardial degeneration and senility without mention of arteriosclerosis or hypertension were falling at most ages raises the question whether these opposing trends could be explained by an increasing tendency to enter arteriosclerosis and hypertension on death certificates in association with myocardial degeneration. In case this should be so, death-rates from *all the groups* in Tables C and CI have been combined and expressed as rates per 100,000 in the following table :—

	35–	45–	50–	55–	60–	65–	70–	75 and over
Males								
1931–33	18	59	118	211	404	811	1,699	4,980
1934–36	21	69	143	259	489	913	1,882	5,258
1937–39	23	77	168	309	586	1,040	2,078	5,859
1940–42	*24*	82	173	333	592	1,087	2,047	5,971
1943–45	*26*	81	169	325	585	1,034	1,911	5,355
Females								
1931–33	13	36	70	137	294	584	1,323	4,689
1934–36	14	37	76	148	323	658	1,433	4,796
1937–39	15	42	82	160	349	701	1,527	5,156
1940–42	13	38	76	157	328	696	1,511	5,216
1943–45	10	31	67	135	294	630	1,373	4,746

The percentage increases and decreases shown by these total rates from all degenerative heart conditions and senility during the two intervals (*a*) 1931–33 to 1937–39, and (*b*) 1937–39 to 1943–45 were :—

	35–	45–	50–	55–	60–	65–	70–	75 and over
Males								
(a) ..	+28	+31	+42	+46	+45	+28	+22	+18
(b) ..	+13	+ 5	+ 1	+ 5	− 0	− 1	− 8	− 9
Females								
(a) ..	+15	+17	+17	+17	+19	+20	+15	+10
(b) ..	−33	−26	−18	−16	−16	−10	−10	− 8

The contrast between what occurred during the war period (*b*) and during the pre-war period of the same length (*a*) is remarkable. Amongst men aged 35–65 death-rates from all degenerative heart conditions continued to increase during the war but at a greatly diminished rate (allowing for some over-statement by civilian selection at 35–45) ; at 60–70 the increase was arrested, and at ages over 70 it gave place to a decrease. Amongst women of each age the pre-war upward trend gave place to a considerable fall in mortality. The complete change of trend during the war amongst old people of both sexes and women of all ages in rates of dying from conditions generally believed to be enhanced by stresses and strains was quite unexpected.

That the rising trend of these rates, which was so pronounced between 1931 and 1939, was not peculiar to that period, but dated back to 1921–30, was shown in the table on page 110 of the Review for 1938–39 (Text). The increase in death-rates from 1921–30 to 1931–35 for a combined group of causes closely comparable with the one used above was about 50 per cent. for men of 60–65 and women between 45 and 70, over 60 per cent. for men of 45–60 and about 30 per cent. for each sex at 70–75. Whatever causes were responsible for the rapid increase in this mortality, they must have been operative during the whole period between the two wars, and not merely during 1931–39, and they must have been largely removed during the war. Possibly conditions of full employment with consequent increase in available income for food in large numbers of families, coupled with a more equal distribution by rationing leading to less over indulgence in food, were the main factors responsible. It is difficult to suggest any other reason which is adequate.

Table CII shows the estimated distribution by region and type of area of mortality in 1940–44 from coronary disease, myocardial degeneration with or without mention of arteriosclerosis or hypertension, and senility. Coronary disease C.M.F. was high in Greater London and also above average in the Northern regions with the noteworthy exception of North IV. It was low in the Midlands, East and Wales I, and in the rural districts. Myocardial degeneration C.M.F. was high in the large towns and in North II and IV ; and low in Wales II and the rural districts. Senility was most frequently certified as sole cause of death in North IV, East, Wales I, North I and the smaller towns, and was not so often certified in Greater London.

The distribution does not suggest any tendency for terms classified to No. 93c to be used in preference to coronary disease in rural areas, and no opposing trends with urbanisation are apparent such as were found with social class in 1930–32 (Decennial Supplement, Occupational Mortality, p. 60). The low

rates for coronary disease in North IV and for myocardial degeneration in North I may be due to the more frequent certification of "senility" in those regions.

95a, c. **Other Heart Disease not specified as Rheumatic.**—The number of deaths classed to symptomatic and ill-defined conditions of the heart continued to diminish after a temporary increase between 1938 and 1940, the totals in successive years from 1936 to 1945 being 6,532, 6,182, 5,855, 6,121, 6,109, 5,143, 4,521, 4,218, 4,059, 4,098.

97. **Arteriosclerosis (excluding coronary or renal sclerosis and cerebral hæmorrhage).**—This residual group excludes deaths attributed to myocardial, intra-cranial vascular and certain kidney lesions, even when said to be due to arteriosclerosis, and consists of other arteriosclerosis with or without mention of hypertension. Deaths in the five years 1935–39 numbered 8,343, 8,505, 9,072, 9,433, 10,572, and in the six years 1940–45 there were 11,287, 10,256, 10,130, 10,404, 10,640, 11,019. The C.M.I. increased from unity in 1938 to 1·14 for males and 1·5 for females in 1940, and the male index then decreased to 0·90 by 1945, whereas the female index remained about unity during 1942–45. The changes in mortality for each sex were similar to those shown by intra-cranial vascular lesions. The average ages at death for the two groups differ considerably, and in 1945 the proportions of deaths at ages over 70 were for arteriosclerosis (No. 97) 73 per cent. for males and 82 per cent. for females, compared with 58 and 62 respectively for No. 83.

106. **Bronchitis.**—Deaths attributed to acute bronchitis (No. 106a) in successive years from 1936 to 1945 numbered 7,301, 8,078, 5,450, 6,668, 11,820, 8,478, 6,552, 8,328, 5,963, 6,696. The high numbers occurred in 1937, 1940, 1941 and 1943, two being years with influenza epidemics and two with severe winters. In 1939 10 per cent. of the deaths occurred in the first year of life, 10 per cent. at ages 1–55, 36 per cent. at 55–75 and 44 per cent. at 75 and over. In 1940, with very high mortality, the percentages were 8, 13, 41 and 38 respectively, a higher proportion being at ages 1–75. In 1945 the age distribution was 10, 10, 38 and 42 per cent., very similar to that of 1939.

At ages over 45 high proportions of the deaths classed to chronic bronchitis have mention on the certificates of myocardial degeneration as a secondary or contributory condition, and Table CIII shows the death-rates at various ages in each year 1939–45 from all bronchitis with such mention and without.* The trends were closely similar for the two groups, and comparing 1940 and 1945 with 1939 the percentages of all deaths from bronchitis which had mention of myocardial disease (No. 106 (3)) were as follows:—

	Males				Females			
	45–	55–	65–	75 and over	45–	55–	65–	75 and over
1939 ..	33	40	42	36	35	42	43	34
1940 ..	31	36	39	34	34	37	38	32
1945 ..	31	40	43	38	34	40	43	36

* Deaths from bronchitis with mention of influenza, chronic endocarditis, arteriosclerosis and chronic nephritis are also distinguished in Tables 6 and 21.

The proportions were greatest at ages 65–75, and were slightly lower in each group in 1940, when mortality from bronchitis was very high.

Death-rates at each age over one year were greatly increased in 1940 and at 1–75 they were still above 1939 levels in 1941. Infants, however, suffered a still higher death-rate in 1941 than in 1940. During 1942–45, the rates for men under 45 were influenced unfavourably by civilian selection, and remained above those of 1939, but females of each age-group (except 25–45 in the influenza year 1943) and men over 65 registered rates well below 1939 levels.

Table CIII.—Bronchitis with and without mention of Myocardial Disease: Death-rates by Sex and Age in each year 1939 to 1945.

	Death-rates per million living*.							
	0–	1–	5–	25–	45–	55–	65–	75 and over.
	106 (3). Bronchitis with mention of Myocardial Disease.							
Males								
1939† ..	—	—	1	23	224	728	1,753	4,965
1940 ..	—	2	2	34	364	1,118	2,353	5,829
1941 ..	—	—	2	33	238	828	1,757	4,366
1942 ..	—	1	1	26	199	699	1,494	3,650
1943 ..	—	1	1	28	213	748	1,580	3,771
1944 ..	3	1	3	31	202	740	1,555	3,526
1945 ..	6	—	2	31	208	828	1,746	3,663
Females								
1939† ..	—	—	1	10	67	308	1,150	3,587
1940 ..	—	—	1	16	112	445	1,525	4,455
1941 ..	—	—	2	10	71	272	1,043	3,511
1942 ..	—	—	2	10	54	199	782	2,325
1943 ..	3	—	1	11	65	225	928	2,823
1944 ..	—	—	1	12	54	201	750	2,373
1945 ..	—	1	1	9	61	242	841	2,499
	106 (1, 2, 4–6). Bronchitis without mention of Myocardial Disease.							
Males								
1939† ..	2,015	138	27	76	450	1,103	2,393	8,692
1940 ..	3,168	237	37	149	821	1,985	3,656	11,218
1941 ..	3,689	210	29	108	522	1,338	2,582	8,343
1942 ..	2,086	124	28	114	452	1,148	2,143	6,573
1943 ..	2,165	124	27	123	511	1,226	2,362	7,614
1944 ..	1,796	88	23	115	438	1,208	2,135	5,835
1945 ..	1,749	81	23	110	470	1,264	2,302	5,904
Females								
1939† ..	1,714	138	19	40	126	431	1,506	6,972
1940 ..	2,261	196	27	60	217	746	2,445	9,599
1941 ..	2,813	172	20	40	158	435	1,641	7,094
1942 ..	1,528	94	18	34	116	319	1,153	4,990
1943 ..	1,610	113	16	46	128	390	1,381	6,139
1944 ..	1,375	81	15	35	119	287	1,042	4,275
1945 ..	1,355	76	14	37	117	361	1,112	4,495

* Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941.

† According to 1940 classification.

Table CV gives the regional distribution of bronchitis mortality in the whole period 1940–44. North IV showed great excess over the national figure, and was followed in descending order of the average C.M.F. by Wales I, North III, North I, Greater London, Midland I and II, North II, East, Wales II, South West, Rest of South East, the highest figure being almost double the lowest. The C.M.F.'s for county boroughs were also nearly double those for the rural districts. The effects of urbanisation and climatic conditions are both apparent, smoke, humidity, air temperature and amount of sunshine being probably the important factors in determining these variations.*

107–109. **Pneumonia.**—Deaths from pneumonia during 1935–38 averaged 28,633 annually, of which 10,019 were classified to lobar (No. 108), 15,893 to broncho-pneumonia (No. 107) and 2,721 to unspecified pneumonia (No. 109). The proportions in the three groups were then 35, 55 and 10 per cent.

After 1938 the deaths from lobar pneumonia decreased suddenly and averaged only 7,122 in 1939–41, despite the severe conditions in two of those years. No such fall occurred in broncho-pneumonia deaths, the three-year average of 16,857 being greater than in 1935–38, whilst the figure for undefined pneumonia, 2,360, was only slightly less. In 1942 all groups of pneumonia registered substantial falls, to 5,933, 12,848 and 2,047 deaths respectively : but in the influenza year 1943 the numbers rose again to 6,534, 15,875 and 2,354. Lobar pneumonia deaths then continued to decline to new low levels of 5,364 in 1944 and 4,957 in 1945, whilst broncho-pneumonia deaths returned to about 13,000 and undefined pneumonia deaths fell to 1,773. By 1944–45 the proportions in the three groups had changed to 26, 65 and 9 per cent.

Table CIV gives the death-rates at ten age-groups and the C.M.I. at all ages in each year 1931 to 1945, combining broncho- with unspecified pneumonia. For *lobar pneumonia* the C.M.I. changed little for either sex from 1933 to 1937, but the use of sulphonamides in the next two years was accompanied by a fall of about one-third in the indices. In 1942, and again after 1943, the fall continued, resulting in an improvement of about 55 per cent. in mortality between 1937 and 1945.

The relative amounts of (*a*) the initial changes in death-rates from 1937 to 1939, and of (*b*) the subsequent changes from 1939 to 1945, at different ages are shown below as percentage decreases or increases.

		0–	1–	5–	15–	25–	35–	45–	55–	65–	75 and over
Males	(*a*) ..	−30	−47	−52	−48	−55	−53	−40	−32	−16	− 1
	(*b*) ..	+14	−61	−58	−30	−24	−47	−50	−32	−21	−23
Females	(*a*) ..	−15	−48	−34	−15	−35	−47	−36	−25	−27	−20
	(*b*) ..	+12	−43	−67	−51	−46	−47	−41	−43	−26	−22

The amount of the initial fall amounted to 40 per cent. or more for males between ages 1 and 55 and females of 1–5 and 35–55, but was smaller for infants and old people. Males benefited more than females in this early stage of sulphonamide treatment at all ages between 5 and 65. In the next period from 1939 to 1945, however, female death-rates fell more than male rates at ages 5–35 and 55–75, making the total improvements about the same for each sex. The total fall was less for old people than at other ages, and in the first year of life no consistent change in mortality was apparent.

* See Regional and Local Differences in Cancer Death-rates. Studies on Medical and Population Subjects No. 1, 1947, page 16.

Broncho-pneumonia deaths consist in large measure of the deaths of infants and people over 75, some 56 per cent. being in those groups in 1945. The trend of rates, though generally downward, is greatly influenced by the occurrence of influenza epidemics and cold winters, as Table CIV shows, but such disturbances do not affect people of different ages in the same way. Although the C.M.I. for broncho- and unspecified pneumonia in 1937 was 1·21 and fell to 1·00 in 1938, mortality increased in the latter year amongst males aged 5–45 and females aged 5–25 ; and in the next year it decreased at all ages up to 75 for males and at 0–25 and 35–55 for females, but increased amongst older people. Between 1939 and 1945 the C.M.I. for females rose to 1·23 in 1940, fell back to about 0·82 by 1942, increased to about unity in 1943 and reached a new low level of 0·77 in 1945. No decrease in this period occurred for infants under one year of age nor for civilian males aged 15–35, but it was pronounced in all other groups. The percentage changes in death-rates in the periods (*a*) 1937–39 and (*b*) 1939–45 are shown below for comparison with the corresponding changes in lobar pneumonia rates given above.

		0–	1–	5–	15–	25–	35–	45–	55–	65–	75 and over
Males	(*a*) ..	−26	−49	−25	− 9	−13	−24	−24	−19	−17	− 6
	(*b*) ..	+ 3	−39	−22	+*10*	+*24*	−36	−34	−16	−19	−22
Females	(*a*) ..	−18	−48	−19	+ 9	− 7	−29	−34	−17	−12	− 3
	(*b*) ..	+11	−40	−39	−26	−33	−34	−38	−37	−26	−27

Table CIV.—Lobar and Other Pneumonia : Death-rates by Sex and Age in each year 1931 to 1945.

	Death-rates per million living*										C.M.I. All ages*
	0–	1–	5–	15–	25–	35–	45–	55–	65–	75 and over	
	108. Lobar pneumonia—Males										
1931 ..	880	275	62	124	170	356	525	705	948	1,229	1·113
1932 ..	890	244	68	124	171	320	482	641	919	1,253	1·055
1933 ..	904	272	65	116	167	341	498	652	799	1,146	1·043
1934 ..	911	280	62	130	179	364	587	721	945	1,264	1·155
1935 ..	912	215	55	103	160	332	533	737	827	1,126	1·056
1936 ..	873	227	53	102	157	310	527	727	868	1,012	1·038
1937 ..	938	245	54	91	159	316	540	759	803	1,075	1·047
1938 ..	832	199	49	108	149	300	515	693	824	1,102	1·000
1939 ..	657	131	26	47	71	148	325	514	678	1,067	·685
1940 ..	795	131	27	63	86	143	314	560	732	958	·706
1941 ..	1,014	154	27	58	74	145	297	545	717	1,014	·703
1942 ..	712	98	19	52	64	135	226	477	647	804	·592
1943 ..	784	77	19	46	61	129	255	480	656	1,057	·621
1944 ..	773	62	14	34	68	106	191	405	610	859	·534
1945 ..	746	51	11	33	54	79	163	349	539	821	·465

* Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

Table CIV—(*contd.*)

	Death-rates per million living*										C.M.I. All ages.*
	0–	1–	5–	15–	25–	35–	45–	55–	65–	75 and over	
	108. Lobar pneumonia—Females										
1931 ..	717	242	66	76	101	173	206	338	567	965	1·312
1932 ..	671	217	54	68	94	146	194	331	577	1,006	1·245
1933 ..	539	239	52	61	87	160	186	320	514	921	1·184
1934 ..	588	205	56	56	91	145	180	314	584	890	1·178
1935 ..	542	193	48	58	84	141	174	289	534	783	1·096
1936 ..	641	194	45	57	87	122	182	308	510	841	1·108
1937 ..	631	200	41	46	77	133	181	288	513	875	1·093
1938 ..	658	200	38	49	74	125	162	258	456	717	1·000
1939 ..	538	103	27	39	50	70	116	215	372	698	·748
1940 ..	750	120	23	27	48	69	114	208	413	741	·787
1941 ..	754	113	18	31	41	68	103	214	412	710	·764
1942 ..	597	96	17	29	38	56	90	166	305	570	·620
1943 ..	682	94	18	42	47	59	106	173	375	660	·719
1944 ..	470	53	15	23	26	46	79	133	281	556	·533
1945 ..	600	59	9	19	27	37	68	123	274	542	·511
	107, 109. Broncho- and unspecified pneumonia—Males										
1931 ..	12,794	2,119	113	73	100	229	433	696	1,640	3,777	1·426
1932 ..	10,635	1,530	97	61	87	192	357	569	1,447	3,631	1·179
1933 ..	10,183	1,638	110	58	97	237	431	671	1,394	3,724	1·229
1934 ..	8,972	1,431	92	57	76	205	390	672	1,391	3,224	1·110
1935 ..	9,050	1,089	65	54	81	172	352	600	1,397	3,211	1·038
1936 ..	9,726	1,218	65	55	72	155	390	705	1,435	3,319	1·143
1937 ..	10,378	1,233	61	43	62	161	410	776	1,494	3,622	1·205
1938 ..	8,643	1,059	70	58	78	173	371	665	1,306	3,202	1·000
1939 ..	7,650	631	46	39	54	123	312	626	1,244	3,393	·885
1940 ..	10,879	1,103	55	61	92	171	422	896	1,573	4,032	1·184
1941 ..	11,361	908	53	67	85	132	314	727	1,252	3,277	1·022
1942 ..	8,238	522	41	55	75	120	231	547	1,095	2,824	·800
1943 ..	9,051	551	42	61	72	130	292	622	1,311	3,456	·935
1944 ..	7,507	410	41	37	83	110	234	509	1,057	2,625	·762
1945 ..	7,904	386	36	43	67	79	206	527	1,012	2,654	·748
	107, 109. Broncho- and unspecified pneumonia—Females										
1931 ..	9,413	1,815	111	48	86	154	244	494	1,374	3,452	1·530
1932 ..	7,874	1,460	95	51	75	127	202	470	1,208	3,216	1·322
1933 ..	7,556	1,467	98	42	75	153	248	480	1,217	3,358	1·349
1934 ..	7,047	1,272	79	47	63	108	211	415	1,133	2,837	1·182
1935 ..	7,151	997	66	38	63	105	184	401	1,037	2,661	1·099
1936 ..	7,335	1,004	65	32	58	92	191	368	1,079	2,925	1·142
1937 ..	7,154	1,109	57	32	59	123	225	445	1,098	3,116	1·213
1938 ..	6,543	865	64	47	52	97	170	355	890	2,575	1·000
1939 ..	5,869	581	46	35	55	87	148	368	962	3,012	·965
1940 ..	8,067	918	52	38	61	97	203	448	1,199	3,581	1·234
1941 ..	9,060	817	56	40	55	81	153	341	982	3,251	1·119
1942 ..	6,160	501	36	34	46	74	123	270	744	2,330	·822
1943 ..	6,890	529	40	36	58	90	144	339	899	3,166	1·013
1944 ..	6,042	395	32	27	41	57	97	224	686	2,184	·766
1945 ..	6,493	351	28	26	37	57	92	233	711	2,208	·774

* Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

(86504) H

Table CV.—Bronchitis, Pneumonia, Other Respiratory Diseases and Diseases of the Pharynx and Tonsils : Comparative Mortality in Regions and different classes of Area, 1940–44.

	Comparative Mortality Figures (Civilians)*							
	Bronchitis 106		Pneumonia 107–109		Other respiratory diseases 104, 105, 110–114		Diseases of pharynx and tonsils 115 b,c.	
	M.	F.	M.	F.	M.	F.	M.	F.
England and Wales	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Greater London	112	102	123	132	95	101	93	89
Rest of South East	69	73	85	91	90	98	93	99
North I	104	118	102	99	100	114	116	107
North II	83	85	109	102	99	108	75	110
North III	116	110	103	94	93	90	100	108
North IV	136	137	115	110	100	107	96	99
Midland I	99	100	103	96	96	94	110	106
Midland II	95	100	87	87	92	98	92	84
East	71	86	65	75	93	104	101	104
South West	71	76	75	77	103	90	124	111
Wales I	118	115	89	86	189	109	106	93
Wales II	76	78	82	89	99	104	110	128
County boroughs†	129	123	121	113	104	102	107	104
Other urban districts† ..	90	94	87	87	103	102	95	104
Rural districts†	67	76	72	76	94	92	104	97

* Estimated by the method described on pages 24–27.

† Excluding Greater London.

Amongst children under five and people over 65 the amount of improvement in the two intervals was much the same as for lobar pneumonia. At ages 5–65 the fall in death-rates from 1937 to 1939 was less pronounced than for lobar pneumonia, especially for men, and the sexes showed no consistent difference. In the war period men aged 15–35 registered an increase, owing to civilian selection, and for other groups the fall was not so great as for lobar pneumonia. The behaviour of the rates supports the view that lobar pneumonia has responded much better to sulphonamides than broncho-pneumonia ; indeed the trend of death-rates since 1931 for the latter gives no certain indication of being appreciably affected by the introduction of those drugs.

Table CV shows the regional distribution of mortality from all forms of pneumonia in the period 1940–44 as a whole. Greater London had the highest C.M.F., the excess over any other region or class of area being very large amongst females. North IV and North II also had high figures and the East and South West ranked lowest. The positions of North II and Wales I contrast with those for bronchitis, but otherwise the two distributions are similar. The excess of mortality in county boroughs over that in rural districts was not quite so great as for bronchitis, but on the other hand the London excess was greater.

110. **Pleurisy.**—Deaths from this cause, which excludes pleurisy specified as tuberculous in origin, averaged 1,099 annually in 1935–37, and in succeeding years the numbers were 938, 817, 845, 889, 801, 710, 635, 596. The C.M.I. averaged 1·23 for males and 1·12 for females in 1935–37, and by 1945 the indices had fallen to about half those values, namely 0·64 and 0·56 respectively.

112. **Asthma.**—Mortality attributed to asthma changed little from 1935 to 1945, the numbers of deaths averaging 2,929 annually in 1935–37 and 2,812 in 1943–45. The C.M.I. for each sex varied between 1·0 and 1·2 during 1935–39. The male index then rose to 1·71 in 1940, and ranged from 0·97 to 1·18 in 1941–45. For females the index rose to 1·53 in 1940 and then varied between 0·92 and 1·09. Except in 1940 when rates were greatly enhanced, the war had little effect on mortality from asthma and no correspondence is apparent between its trend in recent years and that of bronchitis or pneumonia.

114a. **Silicosis and other occupational pneumoconioses.**—Deaths attributed to these conditions have been distinguished from chronic interstitial pneumonia without any indication of occupational origin from 1939 onwards, and the numbers thus identifiable from death certificates in the seven years 1939–45 were 270, 337, 260, 258, 315, 335, 386. The age distributions of the deaths of males in 1939, 1942 and 1945 are compared below :—

	15–	25–	35–	45–	55–	65–	75 and over	All ages
1939 ..	—	7	22	73	105	44	4	255
1942 ..	—	3	20	65	116	47	3	254
1945 ..	—	4	29	82	159	90	18	382

The increase which occurred between 1942 and 1945 was most pronounced at advanced ages, and was not accompanied by an equivalent decrease in deaths of males from chronic interstitial pneumonia without indication of occupational origin, which numbered 183, 167, 173, 157 at all ages in the four years.

Table CV shows that there were no important regional differences in the mortality during 1940–44 from the group of all respiratory diseases other than bronchitis and pneumonia, except for males in Wales I, where the C.M.F. was 189, no other region having a figure above 103. The numbers of deaths of males in this region, which contains the large coalmining population of South Wales, were 127, 160, 191, 202 in successive years from 1942 to 1945, showing an increase of 75 during the period. In the same interval the whole group of " other respiratory diseases " registered an increase from 294 to 388 deaths, this increase being almost accounted for by silicosis. In 1942 the proportion of all male deaths at ages over 15 which were due to " other respiratory diseases " was 27 per 1,000 in Wales I, compared with 15 in England and Wales as a whole. In 1945 the proportion in Wales I was 35 per 1,000, compared with the national figure of 16. To what extent the increase in silicosis deaths was due to more complete ascertainment of the disease cannot be estimated from the records.

Table CVI brings together the deaths of males from silicosis with and without respiratory tuberculosis, the former group being a sub-group of tuberculosis (No. 13a). The total death-rates at ages over 45 did not change consistently between 1939 and 1944, but increased considerably in 1945. Tuberculosis was associated with about half the deaths at 25–45 and about 30 per cent. at higher ages.

(86504) H 2

115. **Diseases of the Mouth and Throat.**—Deaths from diseases of the pharynx and tonsils decreased to a remarkable extent in the period 1935–45. In successive years the numbers classified to No. 115b, Septic sore throat, were 652, 502, 434, 447, 282, 349, 275, 270, 266, 212, 159; and the numbers in No. 115c, Other diseases of the pharynx and tonsils, were 942, 729, 628, 648, 550, 435, 415, 372, 326, 308, 268. The increase in 1940, and the arrest until 1943 of the downward trend, which are noticeable for septic sore throat did not occur for the more chronic conditions, whose mortality continued to fall without interruption from 1938 to 1945. The crude death-rate per million declined from 16 in 1935 to 4 in 1945 for the former group, and from 23 to 7 for the latter.

Tonsillectomy was mentioned in connection with 89 of the total deaths in 1939, the numbers in the next six years being 70, 68, 89, 109, 64, 57.

Table CV shows that there was no very consistent regional variation in mortality during 1940–44 from these diseases. The C.M.F. was highest in the South West, Wales II and North I and lowest in Greater London and Midland II. There was no appreciable difference between town and country mortality.

Table CVIII shows the changes in death-rates from all diseases of the buccal cavity, pharynx and tonsils at four age-groups in triennial periods from 1931–33 to 1943–45. In every group the rate increased slightly in 1934–36 and then declined continuously, the amount of fall from the latter period to 1943–45 being about one-half at ages under 25, and from 60 to 80 per cent. at later ages.

Table CVI.—Silicosis and other Occupational Pneumoconioses; with and without Tuberculosis: Mortality of Males by Ages in each year 1939 to 1945.

	Numbers of deaths*								Rate per million living		
	Silicosis, etc., without mention of tuberculosis (114a)				Silicosis with respiratory tuberculosis (13a)				Silicosis with and without tuberculosis (13a), (114a)		
	0–	25–	45–	65 and over	0–	25–	45–	65 and over	25–	45–	65 and over
1939†	—	29	178	48	—	22	84	26	8	61	46
1940	—	37	225	63	—	28	96	23	12	74	53
1941	—	18	179	57	1	29	101	20	10	65	47
1942	—	23	181	50	—	29	92	23	11	63	43
1943	—	31	211	71	—	32	91	30	15	69	57
1944	—	35	230	67	1	31	84	32	17	72	55
1945	—	33	241	108	—	25	112	29	14	80	74

* Excluding non-civilian males from 3rd September, 1939.
† According to 1940 classification.

117, 118 (1). **Ulcer of the Stomach and Duodenum and Gastritis.**—Deaths attributed to *gastric ulcer* in successive years 1935–38 numbered 3,092, 3,214, 3,239, 3,204, increased to 3,496 in 1939 and 3,893 in 1940, and declined again to 3,664 in 1941 and 3,048 in 1942. The numbers then continued at the pre-war level, being 3,066, 3,184, 3,111 in the next three years.

Table CVII gives the death-rates at nine age-groups in five triennial periods from 1931–33 to 1943–45. The male death-rate is maximal and almost uniform

at ages after 55, whereas the female rate increases with age throughout life. Expressing the female rate as a percentage of the male rate, a considerable change occurred in the ratios between 1931–33 and 1943–45 owing to different trends for the two sexes :—

	25–	35–	45–	55–	65–	75 and over
1931–33	21	25	30	39	49	63
1943–45	17	13	16	20	34	52

Amongst males, gastric ulcer rates at ages under 45 tended to decline throughout the whole period ; at 45–55 the rate was stationary until 1942 and then declined ; at ages over 55 rates increased progressively until 1940–42 and fell back somewhat in 1943–45. Amongst females, mortality at ages under 55 fell throughout the period ; at 65–75 it did not fall until after 1942, and at 75 and over it increased up to 1940–42 and then fell. Whilst the C.M.I. declined by 31 per cent. between 1931–33 and 1943–45 for females, there was no improvement for males.

Deaths attributed to *duodenal ulcer* in the five years 1935–39 numbered 1,405, 1,588, 1,543, 1,539, 1,554, and in the six years 1940–45 there were 1,931, 1,934, 1,699, 1,749, 1,785, 2,024. The C.M.I. for males increased sharply from 1·01 in 1937–39 to 1·23 in 1940 and 1·26 in 1941, fell back to 1·13 in 1942–43, and then increased to 1·17 in 1944 and 1·27 in 1945. The female index showed the same rise to 1·23 in 1940, but fell back at once and ranged between 0·81 and 1·04 during 1941–44, increasing again to 1·14 in 1945.

Table CVII gives the mean annual death-rates during triennial periods 1931–33 to 1943–45, and shows that during 1931–39 male rates were increasing only at ages over 55, and female rates mainly at 65–75. In 1940–42 a pronounced increase occurred for men of each age-group over 25, and in 1943–45 there was a further rise at 25–45, probably due to civilian selection, whilst at ages over 45 the rates remained high. No important change took place in the mean annual rates for females during the war.

When considering the rise in mortality attributed to ulcer, the contemporaneous changes in numbers of deaths attributed to *gastritis* need to be taken into account also. Table CVII shows that death-rates from the latter cause were falling progressively throughout the period, and the absolute increases and decreases in the rates for *the three causes* at ages over 35 were as follows :—

Period	List No.	Males					Females				
		35–	45–	55–	65–	75 and over	35–	45–	55–	65–	75 and over
1931–33 to 1937–39.	117a	− 4	+ 3	+72	+72	+136	−12	−23	− 9	+ 5	+ 36
	117b	− 7	− 5	+37	+32	+ 29	+ 2	− 3	+ 3	+14	− 2
	118:1	− 1	− 3	−14	−39	−128	− 3	− 3	−15	−53	−187
1937–39 to 1943–45.	117a	−22	−46	+13	+19	−56	− 6	−19	−29	−21	−29
	117b	+20	+16	+24	+42	+32	− 1	+ 3	− 1	− 7	+ 6
	118:1	− 2	− 5	− 8	−25	−87	− 2	− 3	− 9	−23	−83

(86504) H 3

Table CVII.—Ulcer of the Stomach and Duodenum, Gastritis and Enteritis : Death-rates by Sex and Age, 1931–33, 1934–36, 1937–39, 1940–42, 1943–45.

	Mean annual death-rates per million living*									C.M.I. all ages*
	0–	5–	15–	25–	35–	45–	55–	65–	75 and over	
	117a. Ulcer of the stomach									
Males										
1931–33 ..	1	1	12	47	124	256	297	317	297	·933
1934–36 ..	0	1	9	45	114	268	344	357	377	·997
1937–39 ..	0	0	9	40	120	259	369	389	433	1·030
1940–42 ..	1	1	8	41	117	248	433	432	431	1·091
1943–45 ..	1	0	10	40	98	213	382	408	377	·969
Females										
1931–33 ..	1	1	5	10	31	77	115	154	188	1·173
1934–36 ..	1	0	3	9	25	68	112	168	191	1·137
1937–39 ..	1	0	2	8	19	54	106	159	224	1·030
1940–42 ..	0	0	3	8	20	47	100	165	238	1·025
1943–45 ..	0	0	2	7	13	35	77	138	195	·811
	117b. Ulcer of the duodenum									
Males										
1931–33 ..	1	0	9	33	73	136	161	179	187	·978
1934–36 ..	0	0	7	31	64	137	180	180	182	·981
1937–39 ..	0	0	8	22	66	131	198	211	216	1·008
1940–42 ..	2	0	8	33	80	149	243	255	250	1·204
1943–45 ..	1	0	11	40	86	147	222	253	248	1·189
Females										
1931–33 ..	0	0	1	5	7	16	24	34	54	·989
1934–36 ..	1	—	1	3	9	19	27	40	48	1·083
1937–39 ..	0	—	1	1	9	13	27	48	52	1·027
1940–42 ..	0	—	2	3	7	15	26	43	54	1·024
1943–45 ..	0	0	2	3	8	16	26	41	58	1·030
	118 : 1. Inflammation of the stomach									
Males										
1931–33 ..	103	4	2	3	5	14	34	90	288	1·693
1934–36 ..	72	2	1	2	3	12	24	62	194	1·176
1937–39 ..	55	1	1	1	4	11	20	51	160	·956
1940–42 ..	58	2	0	1	4	6	16	34	116	·791
1943–45 ..	39	1	0	2	2	6	12	26	73	·556
Females										
1931–33 ..	89	4	1	2	5	9	29	105	372	1·880
1934–36 ..	64	2	0	1	3	8	22	71	269	1·344
1937–39 ..	40	1	1	1	2	6	14	52	185	·917
1940–42 ..	39	1	1	1	3	4	10	36	138	·733
1943–45 ..	29	1	0	1	0	3	5	29	102	·520

Table CVII—(*contd.*)

	Mean annual death-rates per million living*									C.M.I. all ages*
	0–	5–	15–	25–	35–	45–	55–	65–	75 and over	
	119, 120. Enteritis and Diarrhœa									
Males										
1931–33 ..	1,679	15	8	14	17	34	53	122	385	1·117
1934–36 ..	1,472	10	10	15	19	33	54	105	362	0·998
1937–39 ..	1,401	10	11	18	20	31	63	106	306	0·962
1940–42 ..	1,311	10	11	22	22	27	62	111	298	0·919
1943–45 ..	1,422	7	9	20	20	28	46	93	270	0·945
Females										
1931–33 ..	1,204	18	14	24	26	37	59	129	409	1·158
1934–36 ..	1,066	14	16	26	32	36	54	112	347	1·048
1937–39 ..	985	10	14	27	29	32	55	100	320	0·971
1940–42 ..	932	10	16	25	27	33	52	99	288	0·928
1943–45 ..	1,040	7	15	23	25	31	41	93	310	0·972

* Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification in use from 1940 onwards.

The increases in total ulcer rates of men aged 55–75 could not be explained more than partially by transfer from the gastritis group through changes in description on death certificates, though they might be so explained for women of that age and for men over 75. The increase in duodenal ulcer rates of men aged 35–55 during the war were more than matched by decreases in gastric ulcer and gastritis. It is at least evident from this comparison and from Table CVII that the rise in ulcer rates amongst men of 55–75 was real and progressive up to the period 1940–42, with some improvement in 1943–45.

119, 120. **Enteritis and Diarrhœa.**—Deaths from these causes at ages under one year and from one year upwards in the ten years from 1936 to 1945 were as follows :—

	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945
Under 1 year ..	3,362	3,230	3,143	2,660	2,655	2,757	3,252	3,354	3,517	3,592
1 year and over	1,821	1,926	1,825	1,685	1,778	1,897	1,674	1,573	1,501	1,745

The deaths of infants decreased suddenly in 1939 and remained low in 1940–41, but in 1942 there was a sudden increase, followed by an upward trend with the rising birth-rate. The annual fluctuations of enteritis deaths at other ages showed little relation with those of infants.

Table CVII gives the mean annual death-rates at nine age-groups in three-year periods. From 1931–33 to 1937–39 rates were falling amongst children and old people but changing little at other ages. In 1940–42 there was no important change at ages over five ; and in 1943–45 children under five registered increases, whilst most other groups showed slight decreases.

Little progress has been made in discovering the causes of this mortality and reducing it. It is surprising that adults did not suffer any increase in deaths from this group of causes despite the deterioration of hygiene in the service of food to the public caused by war conditions. Not in a single year of the war did the number of deaths at ages over one year reach the number registered in 1937

(86504) H 4

The seasonal change in deaths from enteritis and diarrhœa at all ages is shown by Table 23 for each year, but it is not possible from those tables to say to what extent the seasonal trend differs according to age. If the predominant cause in infancy is not the same as in adult life, this might be manifest when the seasonal distributions are compared. For the year 1943 the table below analyses the civilian deaths according to age, sex and quarter of the year in which the death was registered :—

Age-group	Males				Females			
	March	June	Sept.	Dec.	March	June	Sept.	Dec.
Under 28 days ..	52	51	56	55	32	37	36	44
1– 6 months ..	312	320	370	320	207	216	266	210
6– 9 months ..	63	85	111	67	44	56	76	54
9–12 months ..	23	41	32	27	22	26	19	24
1–2 years	26	23	17	20	17	24	17	20
Total under 2 ..	476	520	586	489	322	359	414	352
2–	12	9	5	5	9	6	15	5
5–	4	—	11	7	8	4	5	4
15–	23	34	28	19	40	57	69	69
45–	40	38	36	36	34	56	57	53
65 and over ..	49	56	64	54	94	84	116	74
Total 2 and over ..	128	137	144	121	185	207	262	205

Table CVIII.—Appendicitis and Diseases of the Mouth and Throat : Death-rates by Sex and Age. 1931–33, 1934–36, 1937–39, 1940–42, 1943–45.

	121. Appendicitis						115. Diseases of Buccal cavity, pharynx and tonsils			
	Mean annual death-rate per million living*					C.M.I. all ages*	Mean annual death-rate per million living*			
	0–	15–	25–	45–	65 and over		0–	25–	45–	65 and over
Males										
1931–33 ..	80	79	64	138	188	1·091	43	31	60	110
1934–36 ..	81	70	68	121	203	1·070	47	35	65	118
1937–39 ..	74	73	60	113	175	0·972	36	23	40	85
1940–42 ..	62	71	47	76	128	0·739	31	19	24	66
1943–45 ..	53	56	39	64	124	0·628	24	15	17	46
Females										
1931–33 ..	59	42	40	99	131	1·150	40	29	64	113
1934–36 ..	52	41	39	93	135	1·089	42	30	70	123
1937–39 ..	50	39	34	77	132	0·987	31	20	30	68
1940–42 ..	37	33	25	46	87	0·677	25	13	20	57
1943–45 ..	34	27	23	47	84	0·639	18	11	13	40

* Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

121. **Appendicitis.**—In the period 1935–38 the number of deaths from this cause remained very constant, successive annual totals being 3,178, 3,053, 3,039, 3,027. In the next three years a rapid fall occurred, to 2,733 in 1939, 2,465 in 1940 and 1,970 in 1941, but this was followed by a stationary period with 2,038, 1,976, 1,965 deaths. In 1945 a further fall began, bringing the number to 1,774 in that year. These two changes were contemporaneous with the introduction on a considerable scale of sulphonamides and penicillin respectively. Non-civilian deaths included in the above totals in years 1939 to 1945 were 11, 87, 97, 111, 90, 84, 71.

Table CVIII shows the trend of death-rates at five age-groups from 1931–33 to 1943–45. The only groups for which the rates fell appreciably in 1931–36 were girls under 15, males of 15–45, and both sexes at 45–65. Expressing the decreases which occurred between 1934–36 and 1943–45 as percentages of the rates in the former period, the result is as follows :—

Period	Males					Females				
	0–	15–	25–	45–	65 and over	0–	15–	25–	45–	65 and over
1934–36 .. to 1943–45 ..	−35	−20	−43	−47	−39	−35	−34	−41	−49	−38

The groups which benefited most were men and women aged 45–65. Males aged 15–25 were doubtless prejudiced by civilian selection to some extent.

125–127. **Other Diseases of the Liver, Gall Bladder and Bile Ducts.**—Deaths attributed to *acute yellow atrophy* not associated with pregnancy (No. 125a) averaged 64 annually in 1936–39, and in the six years 1940–45 there were 76, 75, 113, 114, 99, 115. Deaths classified to other diseases of the liver (No. 125b), which consists mainly of *hepatitis and jaundice* (*unqualified*), showed no consistent change from 1936 to 1942, the numbers in successive years being 166, 165, 187, 151, 164, 157, 172. In 1943 there was a sudden increase to 273, followed by further increases to 327 in 1944 and 368 in 1945.

The International List classifies "*catarrhal jaundice*" to No. 127b, amongst diseases of the gall bladder and bile ducts, but the change in medical opinion about the real nature of this condition and the occurrence of considerable numbers of deaths from homologous serum jaundice made it necessary to identify the deaths attributed to "catarrhal jaundice," "hepatitis" and jaundice unspecified from 1943 onwards. Bringing together all these deaths from conditions which may be closely related in their ætiology :—

		1940	1941	1942	1943	1944	1945
Acute yellow atrophy (without pregnancy)	M.	31	33	53	53	48	60
	F.	45	42	60	61	51	55
Hepatitis	M.				100	130	156
	F.				78	115	151
Jaundice (unspecified)	M.	83	91	86	20	8	7
	F.	81	66	86	31	22	13
Other diseases of liver	M.				(24)	(23)	(16)
	F.				(20)	(28)	(25)
"Catarrhal" jaundice	M.	?	?	?	38	25	21
	F.	?	?	?	54	26	36

The deaths certified as catarrhal or unspecified jaundice decreased from 143 in 1943, the first year for which they were identified, to 81 in 1944 and 77 in 1945, the drop in 1944 being due presumably to a change of description to some form of hepatitis, since it was balanced by a corresponding increase in

the latter group. This was brought about in part by inquiries about these deaths. In 1945, however, the further increase of 62 in hepatitis deaths was not accompanied by further reduction in the jaundice groups.

In 1935, according to the method of classification then in use, 62 deaths (39 males and 23 females) had mention of catarrhal jaundice out of those assigned to No. 127 (2), as was shown in the Statistical Review for 1936, Table LXXII. There were also 66 deaths from hepatitis and 24 from unspecified jaundice assigned to No. 125 (2). Acute yellow atrophy in that year had 64 deaths according to the new classification. Comparison with the figures of 1945 in the table above shows that the jaundice groups were much the same in each year, but acute yellow atrophy and hepatitis deaths had increased by 1945 by about 50 and 240 respectively.

The age distribution of the deaths of civilians in the various groups in 1945 is shown below :—

Age	Acute yellow atrophy		Hepatitis		Catarrhal jaundice		Jaundice unspecified	
	M.	F.	M.	F.	M.	F.	M.	F.
0– ..	8	2	13	23	9	5	—	2
15– ..	3	8	9	14	—	6	—	2
25– ..	2	14	11	31	—	2	—	1
35– ..	8	8	14	27	1	3	—	—
45– ..	5	12	19	12	—	5	3	2
55– ..	3	5	21	18	3	1	—	1
65– ..	6	5	19	14	5	5	3	3
75 and over	—	1	12	10	3	9	—	—
All ages ..	**35**	**55**	**118**	**149**	**21**	**36**	**6**	**11**

Although deaths from acute yellow atrophy with mention of pregnancy are not included in this table, but are classed to Nos. 144c or 148c as toxæmias of pregnancy or childbirth, the groups with highest incidence of this condition and hepatitis combined in the above table are females between the ages of 25 and 45.

Deaths from *biliary calculi* with or without cholecystitis (No. 126), in the five years 1935–39 numbered 1,425, 1,244, 1,179, 1,195, 1,146, and in the six years 1940–45 there were 944, 907, 840, 833, 767, 789. About 70 per cent. of the deaths are of females. The C.M.I. for males declined without interruption from 1·307 in 1935 to 0·566 in 1945, and that of females fell from 1·256 to 0·559 in 1944 with a slight increase to 0·574 in 1945. Deaths attributed to *cholecystitis without mention of gallstones* followed a similar course, falling from 1,276 to 1,175 in 1935–38, and numbering 1,111, 1,021, 956, 792, 751, 740, 682 in years 1939 to 1945. The total decrease from 1935 to 1945 was 47 per cent. compared with 45 per cent. for gallstones, and the ratio of females to males was almost the same in each group. For gallstones the decrease in deaths from 1935 to 1939 amounted to 20 per cent., and in the next four years it was 27 per cent. ; but for cholecystitis the corresponding decreases were 13 and 32 per cent. The acceleration in the rate of fall after the introduction of sulphonamides was more pronounced, therefore, for the latter group, as might be expected.

130–132. **Nephritis.**—Deaths attributed to all forms of nephritis in the five years 1935–39 numbered 18,115, 17,381, 17,046, 15,337, 14,775, and in the six years 1940–45 there were 15,480, 14,305, 13,377, 12,910, 12,708, 12,558.

After an interruption in 1940, the downward trend in progress before the war continued at a somewhat slower rate. The C.M.I. for males fell from 1·229 in 1935 to 0·764 in 1945, or by 38 per cent., and that of females fell from 1·281 to 0·716, or by 44 per cent., the difference being accounted for by the unfavourable effect of civilian selection on the male index.

Table CIX gives the death-rates from *acute nephritis* (No. 130) at eight age-groups in triennial periods from 1931–33 to 1943–45. Except at ages 15–35 and 55–65 for males and at 15–25 for females, the decline in mortality was continuous after 1934–36 for each group, and the extent of the total fall by 1943–45 expressed as a percentage of the death-rate in 1931–33 was as follows :—

	0–	15–	25–	35–	45–	55–	65–	75 and over
Males ..	−24	− 3	+11	− 6	−42	−28	−57	−42
Females ..	−35	−39	−17	−53	−51	−58	−51	−57

Allowing for the fact that the rates in 1943–45 were civilian rates and enhanced by selection amongst males between 15 and 45, it is still apparent that the amount of improvement was smaller at ages 25–35 for each sex than at other periods of life. The C.M.I. of females fell by 23 per cent. between 1931–33 and 1937–39, and by 31 per cent. in the corresponding interval from 1937–39 to 1943–45, so the downward movement of mortality from this cause was for some reason accelerated during the war.

The group entitled *arteriosclerotic kidney* (No. 131b), first separated in the Fifth Revision of the International List, contains chronic interstitial nephritis, granular and cirrhotic kidney, nephritis with arteriosclerosis and nephro-sclerosis, all with or without mention of hypertension. It also contains cardio-renal and cardio-vascular renal disease which may now be thought to belong more appropriately to hypertensive heart disease. Death-rates for this group cannot be ascertained prior to 1940, and Table CIX gives the rates from that year onwards, but it may be assumed that the high levels of 1940 at ages over 45 did not represent the position just before the war. After 1941 the general trend at those ages was downwards, and at ages under 45 there was no consistent change.

Death-rates from *other chronic and unspecified nephritis* (Nos. 131, a, c, 132) were probably also temporarily enhanced amongst older people in 1940, but after 1941 they continued to fall at ages over 45, and to some extent at 35-45, with no definite change at younger ages.

The war-time improvement in mortality from the chronic forms of nephritis amongst people after middle life, though not comparable with the rapid fall for acute nephritis, was similar to that already noticed for degenerative heart conditions and many other diseases, and the reason for it is obscure.

133, 134. **Other Diseases of the Kidneys and Urinary calculi.**—In 1936–39 the mean annual deaths from pyelitis, pyelo-nephritis and pyelo-cystitis (No. 133a) ranged from 1,007 to 1,075, and in the six years 1940–45 there were 1,049, 951, 948, 930, 863, 882. Deaths from calculi of the urinary passages numbered 483, 562, 479, 441 in the years 1936 to 1939, and in the next six years there were 430, 459, 396, 393, 375, 387. For the first of these causes a substantial fall in mortality took place between 1940 and 1944, and for the second a similar fall occurred from 1941 to 1944. The C.M.I. for urinary calculi averaged 1·21 in 1935–37 and 0·78 in 1944–45 for males, and the corresponding female indices were 1·07 and 0·72.

Table CIX.—Nephritis : Death-rates by Sex and Age. 1931–45.

	Death-rates per million living*								C.M.I. all ages*
	0–	15–	25–	35–	45–	55–	65–	75 and over	
	130. Acute nephritis								
Males									
1931–33	24·0	23·9	18·9	20·2	41·8	43·7	75·0	95·8	1·177
1934–36	24·5	23·4	21·3	21·5	33·9	43·4	65·9	86·6	1·140
1937–39	19·8	19·7	18·0	21·3	30·3	35·4	54·3	65·5	0·964
1940–42	19·7	20·3	23·7	19·1	26·7	39·2	49·5	61·2	0·968
1943–45	18·3	23·3	21·0	19·0	24·2	31·5	32·6	55·1	0·856
Females									
1931–33	24·1	22·0	15·0	23·4	34·9	51·5	61·4	70·5	1·316
1934–36	21·6	19·6	17·7	22·0	29·1	43·6	62·5	66·2	1·218
1937–39	17·6	14·4	13·8	19·2	27·0	37·8	47·0	63·9	1·015
1940–42	16·6	12·2	13·0	14·8	20·0	28·7	44·7	45·2	0·845
1943–45	15·7	13·5	12·5	10·9	17·2	21·6	30·3	30·4	0·703
	131b. Arteriosclerotic kidney								
Males									
1940 ..	1·8	10·6	19·8	49·6	156·4	435·7	1,066·1	2,826·4	
1941 ..	1·2	8·4	23·6	48·8	145·2	401·8	1,001·6	2,437·4	
1942 ..	1·4	10·0	33·5	52·4	144·7	386·3	883·9	2,178·3	
1943 ..	1·1	9·5	34·8	46·3	147·2	349·6	759·5	2,180·1	
1944 ..	1·1	11·4	43·8	47·8	132·2	308·6	760·1	2,032·3	
1945 ..	0·7	8·7	33·7	43·9	138·6	334·5	742·9	1,950·0	
Females									
1940 ..	1·6	2·1	14·1	51·2	124·5	343·9	810·7	1,815·2	
1941 ..	0·9	9·1	17·6	41·4	116·1	294·0	696·7	1,584·9	
1942 ..	1·2	5·9	16·6	41·9	121·1	245·6	619·8	1,445·1	
1943 ..	0·9	6·4	19·8	49·2	110·9	240·1	591·2	1,348·3	
1944 ..	2·3	5·6	19·2	41·9	99·2	222·3	584·6	1,365·0	
1945 ..	1·4	9·2	20·9	40·4	95·9	211·6	573·2	1,385·9	
	131a, c, 132. Other chronic and unspecified nephritis								
Males									
1940 ..	8·4	47·6	69·8	96·2	178·2	363·7	728·3	1,660·1	
1941 ..	6·5	66·7	97·2	98·8	179·4	340·1	708·5	1,508·3	
1942 ..	6·7	58·7	85·6	84·9	165·4	294·3	645·5	1,523·7	
1943 ..	6·6	77·7	106·1	80·9	134·9	292·3	573·3	1,370·8	
1944 ..	7·7	60·5	104·7	96·8	123·3	287·0	566·8	1,258·1	
1945 ..	7·4	62·5	99·0	75·5	135·7	260·8	572·9	1,205·8	
Females									
1940 ..	7·9	36·9	54·6	100·6	160·4	305·7	604·0	1,022·4	
1941 ..	9·5	36·0	63·5	80·1	144·8	277·0	534·5	856·3	
1942 ..	8·8	27·2	55·0	71·9	133·1	235·5	501·0	912·4	
1943 ..	6·6	33·1	54·3	76·9	124·5	228·1	476·4	869·4	
1944 ..	9·4	33·8	57·4	73·4	111·6	221·9	464·5	818·8	
1945 ..	7·4	29·3	41·5	60·1	103·8	241·7	407·3	746·4	

* Excluding non-civilian males from 3rd September, 1939, and non-civilian females from mid-1941. Rates for 1931–39 conform with the method of classification from 1940 onwards.

Table CX.—Diseases of the Prostate : Death-rates according to Age in each year 1931 to 1945.

	Death-rates per million males living*								C.M.I. all ages*
	25–	45–	50–	55–	60–	65–	70–	75 and over	
1931 ..	1·2	11	54	184	476	1,245	2,394	5,521	1·028
1932 ..	1·6	10	47	169	476	1,312	2,493	5,912	1·075
1933 ..	1·7	13	49	168	520	1,332	2,604	5,812	1·090
1934 ..	1·5	10	45	175	555	1,224	2,689	5,641	1·075
1935 ..	1·8	13	53	162	519	1,206	2,577	6,062	1·090
1936 ..	2·2	7	49	182	512	1,192	2,450	5,917	1·064
1937 ..	2·1	10	42	173	499	1,126	2,575	5,706	1·044
1938 ..	1·5	11	35	152	435	1,134	2,305	5,704	1·000
1939 ..	1·8	6	30	180	483	1,132	2,399	5,867	1·037
1940 ..	1·4	13	46	157	526	1,265	2,571	6,418	1·127
1941 ..	1·8	7	45	150	504	1,255	2,612	6,097	1·098
1942 ..	0·7	8	54	165	456	1,220	2,282	5,962	1·044
1943 ..	1·7	7	37	156	459	1,188	2,478	5,718	1·035
1944 ..	2·3	9	42	148	447	1,159	2,366	5,353	0·986
1945 ..	0·5	6	37	128	440	1,096	2,213	5,196	0·940

* Excluding non-civilians from 3rd September, 1939. Rates for 1931–39 conform with the method of classification from 1940 onwards.

137. **Diseases of the Prostate.**—Table CX shows the death-rates at eight age groups from this cause in each year 1931 to 1945. At ages under 60 the rates began to fall after 1935 or 1936, and though the decline was interrupted in some of the early years of the war, it continued after 1942, resulting in much lower rates in 1945 than were being registered during 1931–35. At ages after 60 the improvement was slight, though definite, as may be seen by expressing the differences between average death-rates in 1931–33 and 1943–45 as percentages of the former.

	25–	45–	50–	55–	60–	65–	70–	75 and over
Per cent. change ..	0	−35	−23	−17	−9	−11	−6	−6

The C.M.I. at all ages declined from 1·09 in 1935 to unity in 1938, increased again to 1·13 in 1940 and then fell year by year to 0·94 in 1945.

140–150. **Maternal Mortality.**—The great reduction in the number of deaths from causes connected with pregnancy and childbearing, which began in 1935, continued without interruption throughout the war. As Table CXIII shows, maternal mortality was not improving between 1928 and 1934, but rather the reverse, and this led to intensive studies which resulted in the publication in 1937 of the Ministry of Health's Report on an Investigation into Maternal Mortality.* The investigations throughout the country during the preparation of this report and the action which followed its issue, the discovery of the potency of sulphonamides and later of penicillin in reducing the fatality of sepsis, and the large-scale development of blood transfusion services and of antenatal and postnatal care, have contributed to the remarkable fall in the number of deaths due to diseases of pregnancy, childbirth and abortion from 2,880 in 1934 to 1,262 in 1945. The reduction of the risks of childbirth was then still in progress, and it furnishes a notable example of what can be achieved by the concerted effort of medical specialists, biochemists and public health workers when the national conscience has at last been aroused by the persistent presentation of unpleasant statistical facts.

* Cmd. 5422 and Cmd. 5423.

Table CXI shows the numbers of deaths attributed to pregnancy and childbearing, excluding abortion, and the numbers of deaths from other conditions associated therewith, according to marital condition and age in each year from 1936 to 1945. During that period the total deaths caused by the maternal conditions decreased from 2,011 to 1,028, those of married women falling by just one-half, with a smaller reduction for single and widowed. The reduction was most pronounced at ages 25–30, significantly less at 35–45 and absent after 45. In the same period the deaths from other causes associated with pregnancy and childbearing (excluding abortion) decreased from 541 to 342, with temporary increases in the influenza years 1937 and 1943. The amount of fall did not differ appreciably in the various age-groups.

Table CXII shows the deaths due to and associated with abortion in each year 1928 to 1945. Between 1928 and 1935 the total deaths varied around 560 annually and then declined continuously to 324 in 1940, increasing again to about 370 in the next four years and falling suddenly to 253 in 1945. The relative fall between 1936 and 1945 was almost the same as for the maternal deaths.

In 1931–33 one-sixth of the deaths attributed to abortion were known to be the result of non-therapeutic interference with pregnancy, but the proportion rose to more than a quarter during 1940–45. Of the deaths from abortion not known to have been so induced, 64 per cent. were said to be due to sepsis in 1931–33, and the proportion was 73 per cent. in 1942–44. Up to 1944 the deaths without mention of sepsis were decreasing more rapidly than those attributed to post-abortive sepsis, but this was probably due to more careful certification and investigation of these deaths. There was in fact no improvement in the frequency of deaths attributed to post-abortive sepsis between 1937 and 1944, although the number without mention of sepsis fell by nearly one-half. In 1945 there was a sudden drop in the sepsis deaths.

Table CXI.—Deaths, including those of non-civilians, attributed to and associated with all Maternal causes, excluding Abortion, in each year 1936 to 1945.

	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945
Total deaths classed to Nos. 142–150 :—										
Single	110	73	74	85	70	*78	85	85	61	70
Married	1,885	1,688	1,654	1,548	1,298	1,257	1,262	1,193	1,101	943
Widowed	16	12	14	10	4	18	13	18	13	15
All Women	**2,011**	**1,773**	**1,742**	**1,643**	**1,372**	**1,353**	**1,360**	**1,296**	**1,175**	**1,028**
Ages 15–	47	39	45	58	46	*39	41	27	24	22
20–	317	294	227	226	213	200	211	185	191	157
25–	543	476	472	469	350	340	334	305	228	204
30–	520	466	468	422	355	334	352	349	333	252
35–	392	335	341	316	263	285	273	274	268	255
40–	173	149	164	136	122	140	122	123	112	119
45–	19	14	25	16	23	15	27	33	19	19
Total deaths not classed to 142–150, but associated with a condition therein :—										
Single	23	30	21	22	18	18	18	23	24	29
Married	512	548	424	404	344	336	341	409	350	307
Widowed	6	7	4	3	6	4	4	5	9	6
All Women	**541**	**585**	**449**	**429**	**368**	**358**	**363**	**437**	**383**	**342**
Ages 15–	7	16	9	13	14	15	10	11	6	2
20–	75	63	63	55	46	61	65	62	66	54
25–	125	148	95	115	89	81	101	101	80	71
30–	135	158	118	106	93	94	83	123	99	90
35–	134	123	111	101	86	57	70	92	89	85
40–	55	69	46	37	35	47	32	41	39	34
45–	10	8	7	2	5	3	2	7	4	6
Number of live and still births†	630,337	635,363	645,933	638,799	612,899	599,967	673,886	705,596	772,784	699,270

* Including 1 death at 10–14 years.

† Registered live and still births up to 1938 inclusive and numbers of occurrences thereafter.

Table CXII.—Deaths, including those of non-civilians, attributed to or associated with Abortion, 1928 to 1945.

	Spontaneous, therapeutic or unstated		Induced, non-therapeutic (criminal)		Total attributed to abortion (including criminal)	Others associated with abortion	Total attributed to or associated with abortion
	With sepsis	Without sepsis	With sepsis	Without sepsis			
1928	224	147	57		428	83	511
1929	238	140	67		445	182*	627
1930	300	147	67		514	77	591
1931	229	140	52	27	448	77	525
1932	262	139	46	23	470	90	560
1933	257	144	56	29	486	97	583
1934	295	118	67	33	513	64	577
1935	262	108	64	30	464	74	538
1936	242	105	49	24	420	70	490
1937	176	109	56	28	369	104	473
1938	173	101	54	26	354	81	435
1939	167	79	80	28	354	49	403
1940	116	76	43	33	268	56	324
1941	145	90	66	24	325	47	372
1942	175	62	64	12	313	49	362
1943	167	64	76	15	322	57	379
1944	170	63	75	7	315	52	367
1945	110	50	65	9	234	19	253

* The excessive number of deaths associated with abortion but not classed to it in 1929 was due partly to the influenza epidemic of that year and partly to the allocation to abortion rather than to childbirth, for that year only, of 63 deaths said to be associated with premature delivery without definition as to length of gestation.

Table CXIII.—Mortality rates of Women, including non-civilians, in or associated with Pregnancy and Childbearing, with distinction of Abortion, 1928 to 1945.

Year	Per 1,000 live and still births*								Per million women aged 15–44	
	Pregnancy and childbearing without abortion			Associated causes without abortion	Abortion (including induced for toxæmia and non-therapeutic reasons)			Associated with abortion	Abortion total	Associated with abortion
	Sepsis	Other	Total		Sepsis	Other	Total			
1928	1·58	2·17	3·75	0·95	?	?	0·62	0·12	44	9
1929	1·51	2·13	3·64	1·06	?	?	0·66	0·18†	46	12†
1930	1·54	2·06	3·60	0·94	?	?	0·76	0·11	52	8
1931	1·41	2·02	3·43	1·17	0·43	0·25	0·68	0·12	46	8
1932	1·33	2·12	3·46	0·89	0·48	0·25	0·73	0·14	48	9
1933	1·49	2·23	3·72	1·10	0·52	0·29	0·80	0·16	50	10
1934	1·59	2·21	3·80	1·00	0·58	0·24	0·82	0·10	53	7
1935	1·34	2·06	3·41	0·92	0·52	0·22	0·74	0·12	47	8
1936	1·18	2·01	3·19	0·86	0·46	0·20	0·67	0·11	42	7
1937	0·79	2·01	2·79	0·92	0·37	0·22	0·58	0·16	37	10
1938	0·70	1·99	2·70	0·70	0·35	0·20	0·55	0·13	35	8
1939	0·63	1·94	2·57	0·67	0·39	0·17	0·55	0·08	35	5
1940	0·55	1·69	2·24	0·60	0·26	0·18	0·44	0·09	27	6
1941	0·48	1·78	2·26	0·60	0·35	0·19	0·54	0·08	32	5
1942	0·42	1·60	2·02	0·54	0·35	0·11	0·46	0·07	31	6
1943	0·39	1·45	1·84	0·62	0·34	0·11	0·46	0·08	32	6
1944	0·28	1·24	1·52	0·50	0·32	0·09	0·41	0·07	32	5
1945	0·24	1·23	1·47	0·49	0·25	0·08	0·33	0·03	24	2

* Based on registered live and still births up to 1938 inclusive and numbers of occurrences thereafter, and conforming with classification in use from 1940.

† Corrected in accordance with the note below Table CXII.

Table CXIII gives the mortality rates per 1,000 live and still births in each year 1928 to 1945 attributed to and associated with pregnancy, childbirth and the puerperal state, with distinction of abortion and of sepsis. The rate for infections of childbirth and the puerperium showed signs of improvement in 1931 and 1932, but they were not sustained and the rate in 1934 was no better than in 1928. After 1934 a steady fall began and continued without a break bringing the rate down from 1·59 to 0·24 per 1,000 by 1945. The most important factor in producing this collapse of the sepsis rate must have been the introduction of sulphonamide drugs, but it had already begun before their application had become widespread.

For other complications of childbirth and pregnancy, except abortion, the rates in 1935–38 were no lower than in 1928–31, but a pronounced fall occurred in 1940. In view of the fact that for a large proportion of the deaths in this group the terminal cause is shock or hæmorrhage, the fall in the rate in 1939–40 can be attributed to the widespread rise of blood transfusion for which services were being built up during 1939. Further improvement occurred in 1942–44, and the rate in 1945 was 44 per cent. below that of 1934. The death-rate from other causes associated with childbearing, excluding abortion, did not change appreciably from 1928 to 1937, but fell considerably in 1938 and 1940, and again in 1944, bringing the rate down to half that of 1934.

The death-rate attributed to abortion ranged from 44 to 53 per million women of childbearing age during 1928–35 and fell to 35 in 1938–39 and 27 in 1940. In the next four years it remained about 32, but in 1945 fell suddenly to 24 per million. When expressed as a ratio to the number of live and still births, which is an approximate guide to the total pregnancies occurring, the post-abortive sepsis rate fell from 0·58 per 1,000 in 1934 to 0·26 in 1940, averaged 0·34 in 1941–44 and fell again to 0·25 in 1945. Sulphonamides must have been the main factor in the reduction up to 1944, and penicillin was probably responsible for the further improvement in 1945. The rate for abortion without mention of sepsis also fell from 0·24 in 1934 to 0·08 in 1945, and the rate for other causes associated with abortion declined in 1939 and again in 1945 to a similar extent.

It is no longer necessary to tabulate the component causes of maternal mortality in fuller detail than is provided by the Fifth Revision of the International List. In Table CXIV the totals of 1,777 and 7,584 deaths due to abortion, and maternal causes other than abortion respectively, during the six years 1940–45 are analysed by marital condition and age for each group of the list. The proportion of single women was 15·2 per cent. amongst those dying of abortion, compared with 5·9 per cent. amongst those dying of other complications of pregnancy and childbearing.

The Population (Statistics) Act of 1938 has provided the numbers of maternities (i.e., deliveries resulting in a live or still birth or both) according to age of mother, and this makes it possible to calculate the risks during 1940–45 of dying *as a result of childbirth* at successive ages, by relating the deaths from causes in Nos. 146–150, as shown in Table CXIV, to the total maternities. The annual numbers of maternities are given in Table AA of Part II of the Review for each year, and the aggregate totals for the six years 1940–45 by age of mother were :—

Under 20 ..	152,364	30–	942,190	45 and over	13,362
20–	1,013,783	35–	547,639	Not stated ..	19,703
25–	1,170,890	40–	172,389	All ages ..	4,032,320

Table CXIV.—Deaths of Women, including non-civilians, certified as due to Pregnancy and Childbearing. 1940–45.

Cause of death	All ages	Civil Condition			Age *						
		S	M	W	15–	20–	25–	30–	35–	40–	45–
140–141 Abortion (all forms)	**1,777**	**270**	**1,452**	**55**	**45**	**282**	**448**	**493**	**362**	**138**	**9**
140 Post-abortive infection	1,272	208	1,016	48	33	209	334	362	242	87	5
(*a*) Spontaneous or therapeutic	883	113	740	30	19	130	228	268	173	61	4
(*aa*) With pyelitis	21	1	19	1	—	5	8	6	1	1	—
(*ab*) Without pyelitis	862	112	721	29	19	125	220	262	172	60	4
(*b*) Induced*	389	95	276	18	14	79	106	94	69	26	1
(*ba*) By woman herself	182	28	145	9	2	29	44	53	41	12	1
(*bb*) By other person	67	23	41	3	3	18	22	10	10	4	—
(*bc*) By person unstated	140	44	90	6	9	32	40	31	18	10	—
141 Abortion without sepsis	505	62	436	7	12	73	114	131	120	51	4
(*a*) Spontaneous or therapeutic	405	35	365	5	7	54	92	101	106	41	4
With toxæmia	138	6	130	2	1	26	35	34	32	9	1
Without toxæmia	267	29	235	3	6	28	57	67	74	32	3
(*b*) Induced*	100	27	71	2	5	19	22	30	14	10	—
(*ba*) By woman herself	56	13	41	2	4	6	14	17	11	4	—
(*bb*) By other person	16	5	11	—	1	2	2	8	1	2	—
(*bc*) By person unstated	28	9	19	—	—	11	6	5	2	4	—
142–150 Maternal causes excluding abortion	**7,584**	**449**	**7,054**	**81**	**199**	**1,156**	**1,762**	**1,975**	**1,618**	**738**	**136**
142 Ectopic gestation	357	17	334	6	2	23	70	110	113	35	4
143 Hæmorrhage of pregnancy	145	4	137	4	—	9	26	36	44	25	5
(*a*) Placenta prævia	79	2	74	3	—	4	14	16	29	14	2
(*b*) Premature separation of placenta	39	1	37	1	—	3	5	14	8	6	3
(*c*) Other hæmorrhage of pregnancy	27	1	26	—	—	2	7	6	7	5	—
144 Toxæmias of pregnancy	645	55	585	5	27	125	140	138	145	61	9
(*a*) Eclampsia	324	30	290	4	18	60	80	68	75	18	5
(*b*) Albuminuria, etc.	108	6	101	1	3	22	19	23	28	11	2
(*c*) Acute yellow atrophy	50	5	45	—	1	13	10	9	10	6	1
(*d*) Other toxæmias of pregnancy	163	14	149	—	5	30	31	38	32	26	1
145 Other diseases and accidents of pregnancy	136	12	123	1	3	18	27	43	23	13	9
146 Hæmorrhage of childbirth and puerperium	1,216	61	1,143	12	20	188	284	320	277	116	11
(*a*) Placenta prævia	325	12	309	4	3	26	60	91	96	46	3
(*b*) Premature separation of placenta	63	1	60	2	1	11	16	14	13	7	1
(*c*) Other hæmorrhage of childbirth	77	3	73	1	—	9	14	17	30	5	2
(*d*) Other hæmorrhages after childbirth	751	45	701	5	16	142	194	198	138	58	5
147 Infection during childbirth and puerperium	1,570	105	1,450	15	57	240	397	424	283	152	17
(*a*) General and local with pyelitis	64	7	57	—	3	13	17	11	13	6	1
(*b*) General and local without pyelitis	780	65	707	8	35	125	220	200	121	72	7
(*c*) Puerperal thrombophlebitis	327	14	309	4	7	42	62	115	66	31	4
(*d*) Puerperal embolism and sudden death	399	19	377	3	12	60	98	98	83	43	5
148 Puerperal toxæmias	1,570	98	1,457	15	55	304	345	392	310	138	26
(*a*) Puerperal eclampsia	702	56	640	6	40	164	140	169	119	58	12
(*b*) Puerperal albuminuria, etc.	453	20	427	6	3	57	105	121	110	47	10
(*c*) Acute yellow atrophy	197	7	189	1	3	49	48	54	35	8	—
(*d*) Other puerperal toxæmias	218	15	201	2	9	34	52	48	46	25	4
149 Other accidents of childbirth	1,813	91	1,699	23	32	222	436	485	400	185	53
150 Other conditions of childbirth and the puerperal state	132	6	126	—	3	27	37	27	23	13	2
(*a*) Mastitis during puerperium and lactation	31	1	30	—	3	10	8	5	4	1	—
(*b*) Puerperal psychoses	32	3	29	—	—	8	10	10	4	—	—
(*c*) Other conditions in 150	69	2	67	—	—	9	19	12	15	12	2
Total (including abortion)	**9,361**	**719**	**8,506**	**136**	**244**	**1,438**	**2,210**	**2,468**	**1,980**	**876**	**145**
Single	719	719	—	—	119	219	148	107	89	32	5
Married	8,506	—	8,506	—	125	1,212	2,039	2,322	1,856	826	126
Widowed	136	—	—	136	—	7	23	39	35	18	14
Total from abortion (140–141)	1,777	270	1,452	55	45	282	448	493	362	138	9
Single	270	270	—	—	38	92	66	40	27	7	—
Married	1,452	—	1,452	—	7	185	372	433	321	126	8
Widowed	55	—	—	55	—	5	10	20	14	5	1
Total from causes other than abortion (142–150)	7,584	449	7,054	81	199	1,156	1,762	1,975	1,618	738	136
Single	449	449	—	—	81	127	82	67	62	25	5
Married	7,054	—	7,054	—	118	1,027	1,667	1,889	1,535	700	118
Widowed	81	—	—	81	—	2	13	19	21	13	13

*For reasons other than therapeutic. Abortions induced because of toxæmia or hæmorrhage are included in (*a*), and if induced for other therapeutic reason they are classified in accordance with the statement on the certificate. If not stated to be induced they are assumed to have been spontaneous.

The deaths per 100,000 maternities* from separate causes and from all causes 146–150 are shown in the table below.

	Under 20	20–	25–	30–	35–	40–	45–	All ages
Hæmorrhage (146)	13	18	24	34	50	67	82	30
a. Placenta prævia	2	3	5	10	17	27	22	8
b. Premature separation ..	1	1	1	1	2	4	7	2
c, d. Other hæmorrhage ..	10	15	18	23	31	36	52	21
Infection (147)	37	24	34	45	51	88	127	39
a, b. General and local ..	25	14	20	22	24	45	60	21
c. Thrombophlebitis	5	4	5	12	12	18	30	8
d. Embolism, sudden death ..	8	6	8	10	15	25	37	10
Toxæmia (148)	36	30	29	41	56	80	194	39
a. Eclampsia	26	16	12	18	22	33	89	17
b. Albuminuria, etc.	2	6	9	13	20	27	74	11
c. Acute yellow atrophy ..	2	5	4	6	6	5	—	5
d. Other toxæmia	6	3	4	5	8	14	30	5
Other accidents of childbirth (149)	21	22	37	51	73	107	395	45
Other puerperal conditions (150)	2	3	3	3	4	8	15	3
Total complications of childbirth and the puerperium (146–150)	**109**	**96**	**127**	**174**	**235**	**349**	**812**	**156**
Per cent. of rate at all ages ..	70	62	81	112	151	224	521	100

* The small number without statement of age has been distributed proportionately.

The total risk of dying from a complication of childbirth or the puerperium in 1940–45 was least at ages 20–25 (being 12 per cent. higher at 15–20) and it increased with advancing age until at 40–45 it was $3\frac{1}{2}$ times as great, and after 45 it was $8\frac{1}{2}$ times as great. At ages under 25 the risk was 1 in 1,000, by 35 it reached 2 in 1,000 and by 40 it was 3 in 1,000.

The hæmorrhage rate was minimal at 15–20 and rose continuously with age, the placenta prævia rate increasing more than ten times and other hæmorrhages $3\frac{1}{2}$ times by ages 40–45. Infection accounted for most of the total excess at ages 15–20, and from 20–25 onwards this risk increased $3\frac{1}{2}$ times by 40–45. The eclampsia rate was minimal at 25–30, but for other albuminuria the rate increased rapidly throughout the age range. Acute yellow atrophy showed no change with age after 20. For other accidents of childbirth the risk was 0·2 in 1,000 at 15–25, rising to one by age 40 and to about four after age 45.

The risks of dying *before delivery* of a live- or still-born child from a complication of pregnancy can only be accurately calculated if the number of pregnant women is known. In the first place it is necessary to define what constitutes pregnancy for statistical purposes. Some conceptions end in very early abortion which is not recognized as such, and pregnancy is usually not possible of diagnosis until the second month. The period at risk to a recognisable abortion may be taken as six months, and allowing for premature births, the total period with risk of dying in the pregnant state from other causes may be taken as eight months. The rate of dying from all causes during pregnancy at a given age is probably less than the general rate for all women of that age, but the risk for a pregnant woman of dying during the pregnant state may be estimated as two-thirds of the annual general death-rate of women at the age in question. In 1940–45 this risk was about 1·2 per 1,000 at ages 15–20, 1·7 between 20 and 35, 2·0 at 35–40, 2·6 at 40–45 and 3·7 at 45–50.

The proportion of pregnant women whose pregnancies terminate in abortions is not known accurately, but data from selected groups which have been in-

vestigated suggest that the proportion now lies between five and 15 per cent., and that the ratio of abortions to maternities in the general population is most probably about 10 per cent.

In order to estimate the numbers of pregnant women at risk to die of causes in International List Nos. 140–145, the numbers of maternities in 1940–45, as used in the preceding table, have been increased by 10 per cent. to allow for those who had passed out of the pregnant population before childbirth. The additional correction for those dying of any cause during pregnancy would be small compared with this approximate figure, which assumes the abortion frequency to be the same at each age, a doubtful assumption. The populations used are therefore the maternities in 1940–45, given above, increased by one-tenth (those of unstated age being distributed rateably over the age-groups as before). The proportions dying during pregnancy per 100,000 at risk, obtained by relating the deaths in Table CXIV to these populations, are given in the table below.

	15–	20–	25–	30–	35–	40–	45–	All ages
Post-abortive infection (140) ..	20	19	26	35	40	46	34	29
a. Spontaneous or therapeutic	11	12	18	26	29	32	27	20
b. Induced (criminally) ..	8	7	8	9	11	14	7	9
Abortion without sepsis (141)	7	7	9	13	20	27	27	11
a. Spontaneous or therapeutic	4	5	7	10	18	22	27	9
b. Induced (criminally) ..	3	2	2	3	2	5	—	2
Ectopic gestation (142) ..	1	2	5	11	19	18	27	8
Hæmorrhage of pregnancy (143)	—	1	2	3	7	13	34	3
Toxæmia of pregnancy (144) ..	16	11	11	13	24	32	61	15
a. Eclampsia	11	5	6	7	12	9	34	7
b. Albuminuria, etc.	2	2	1	2	5	6	14	2
c. Acute yellow atrophy ..	1	1	1	1	2	3	7	1
d. Other toxæmias	3	3	2	4	5	14	7	4
Other diseases and accidents of pregnancy (145)	2	2	2	4	4	7	61	3
Total complications causing death before maternity ..	**46**	**41**	**55**	**79**	**113**	**143**	**244**	**69**
Per cent. of rate at all ages ..	67	59	80	114	164	207	354	100

As for childbirth, the risk of dying whilst pregnant from a complication was least at ages 20–25, being 12 per cent. higher at 15–20. It increased with advancing age until after 45 it was six times as great as at 20–25. The risk of dying from any complication was about 1 in 2,000 at ages under 30, abortion accounting for about 60 per cent. of the risk. At 35–40 it was about 1 in 800. The ectopic gestation rate increased from 1 per 100,000 before age 20 to about 20 at age 45, and the antepartum hæmorrhage rate increased to a similar extent.

Table CXV gives the numbers of deaths classed to each cause in the International List with mention of pregnancy, abortion or childbirth as an *associated condition* but not as the underlying cause of death, in the periods 1937–39, 1940–42 and 1943–45, and the age-distributions of the deaths in 1940–45. The totals of these deaths in the three periods were 1,697, 1,241 and 1,290, of which 234, 152 and 128 had mention of abortion as the associated condition. Chronic affections of the valves and endocardium accounted for 15·8, 20·7 and 20·2 per cent. of all the deaths, and the rates per 100,000 maternities at ages 15–25, 25–30, 30–35, 35–40, 40 and over in 1940–45 were 8·7, 10·7, 15·9, 19·1, 17·7

respectively. Other forms of heart disease contributed 9·9, 11·5 and 8·5 per cent. of the deaths in the three periods 1937–39, 1940–42, 1943–45; tuberculosis accounted for 8·1, 9·8 and 8·4 per cent., and pneumonia for 15·3, 6·7 and 6·4 per cent. Nephritis contributed 8·1, 7·2 and 6·8 per cent.

Table CXV.—Deaths of Women, including non-Civilians, not classed to Pregnancy or Childbearing but certified as associated therewith. 1937–39, 1940–42, 1943–45.

	Cause of death	1937–1939	1940–1942	1943–1945	1940–1945						
		All ages			15–	20–	25–	30–	35–	40–	45–
2	Paratyphoid fever	—	1	1	—	1	—	—	—	1	—
6	Cerebro-spinal(meningococcal) meningitis	1	4	3	—	1	—	4	1	1	—
8	Scarlet fever	4	2	1	—	1	1	1	—	—	—
10	Diphtheria	3	5	2	—	2	1	1	3	—	—
11	Erysipelas	—	1	—	—	—	—	—	1	—	—
12	Tetanus	—	—	1	—	—	—	—	1	—	—
13	Tuberculosis of respiratory system	114	102	80	9	49	50	44	27	3	—
14–22	Tuberculosis, other forms	24	20	28	4	16	12	6	8	2	—
24a	Septicæmia	3	1	1	—	—	1	—	—	1	—
25	Gonococcal infections	1	2	1	—	1	1	—	1	—	—
27b	Amœbic dysentery	—	—	—	—	—	—	—	—	—	—
28	Malaria	2	—	—	—	—	—	—	—	—	—
30b	General paralysis of the insane	1	—	—	—	—	—	—	—	—	—
30d	Other forms of syphilis	8	6	6	—	4	5	—	1	2	—
32b	Vincent's angina	—	1	—	—	1	—	—	—	—	—
33	Influenza	135	35	37	1	7	11	24	19	9	1
35	Measles	2	2	3	—	—	—	3	2	—	—
36 : 1	Acute poliomyelitis	2	2	2	—	2	1	1	—	—	—
37	Encephalitis lethargica	—	—	—	—	—	—	—	—	—	—
43	Actinomycosis	1	—	1	—	1	—	—	—	—	—
44b	Hodgkin's disease	2	—	—	—	—	—	—	—	—	—
44c	Mumps	1	—	—	—	—	—	—	—	—	—
45–55	Cancer	33	16	25	—	4	7	11	11	5	3
56a, b, c	Non-malignant tumours of female genital organs	54	45	65	2	5	16	32	32	23	—
56d, e	Non-maligant tumours of other sites	1	1	7	—	—	1	1	3	2	1
57a,b,c	Tumours of undetermined nature—female genital organs	—	—	1	—	—	1	—	—	—	—
57d, e	Tumours of undetermined nature—other sites	2	3	7	—	2	1	4	—	3	—
58	Rheumatic fever	15	14	16	1	10	10	5	3	1	—
59	Chronic rheumatism and other rheumatic diseases	—	1	1	—	—	—	1	—	1	—
61	Diabetes mellitus	19	20	17	2	4	9	11	9	2	—
62	Diseases of pituitary gland	—	2	—	—	—	1	1	—	—	—
63	Diseases of the thyroid and parathyroid glands	23	12	14	—	2	3	6	11	4	—
64	Enlarged thymus	1	—	—	—	—	—	—	—	—	—
65	Diseases of adrenal glands	—	4	1	—	—	2	—	2	1	—
66b3	Dwarfism	1	—	—	—	—	—	—	—	—	—
67	Scurvy	—	1	—	—	1	—	—	—	—	—
70	Rickets	3	2	—	—	—	1	—	1	—	—
72a	Primary purpura	1	5	2	1	—	4	1	1	—	—
72b	Hæmophilia	2	2	—	—	—	—	—	1	1	—
73	Anæmias	53	58	40	3	12	27	21	23	9	3
74	Leukæmias and Aleukæmias	—	7	5	1	2	3	4	2	—	—
75	Diseases of the spleen	4	1	1	—	—	—	1	1	—	—
76a	Agranulocytosis	1	5	—	2	—	1	1	—	1	—
80a	Intra-cranial abscess	3	—	1	—	—	—	—	1	—	—
80b	Encephalitis	1	—	—	—	—	—	—	—	—	—
81	Meningitis	3	3	6	—	—	3	3	2	1	—
82 : 3	Myelitis of unstated origin	1	1	1	—	1	1	—	—	—	—
83	Intra-cranial lesions of vascular origin	13	23	26	—	3	4	15	18	9	—
84b	Schizophrenia	1	—	1	—	—	1	—	—	—	—
84c, d	Other mental disorders	2	2	2	—	2	1	1	—	—	—
85	Epilepsy	12	8	10	—	5	4	5	3	1	—
87a	Chorea	1	1	—	—	—	—	1	—	—	—
87d	Disseminated sclerosis	3	1	2	—	—	—	2	1	—	—
87b, c, e	Other diseases of nervous system	2	—	1	—	1	—	—	—	—	—
88	Diseases of the organs of vision	1	—	—	—	—	—	—	—	—	—
89	Diseases of ear and mastoid antrum	9	1	2	—	1	2	—	—	—	—
90	Pericarditis	3	2	2	—	1	2	1	—	—	—
91	Acute endocarditis	15	18	17	5	9	10	5	3	3	—
92	Chronic affections of the valves and endocardium	268	257	260	12	90	126	151	105	28	5
93	Diseases of the myocardium	119	98	73	2	17	28	48	39	32	5
94	Diseases of the coronary arteries	9	6	7	—	—	1	5	5	1	1
95	Other diseases of the heart	22	19	11	1	4	5	7	9	4	—
96	Aneurysm	4	3	2	—	—	—	3	1	1	—
97	Arteriosclerosis	1	—	—	—	—	—	—	—	—	—

Table CXV—(*contd.*)

Cause of death		1937–1939	1940–1942	1943–1945	1940–1945						
		All ages			15–	20–	25–	30–	35–	49–	45–
99	Other diseases of the arteries	—	1	1	—	—	1	—	—	1	—
100a	Varices	9	7	16	—	3	4	3	7	6	—
100b	Other diseases of the veins	4	9	8	—	1	2	7	6	—	1
101	Diseases of lymphatic system	—	—	1	1	—	—	—	—	—	—
102	High blood pressure (idiopathic)	3	4	4	—	1	1	2	2	2	—
104	Diseases of the nasal fossæ and annexa	2	—	1	—	—	1	—	—	—	—
105	Diseases of the larynx	3	2	—	—	1	—	1	—	—	—
106	Bronchitis	39	26	24	—	8	8	11	10	10	3
107	Broncho-pneumonia	77	26	31	4	3	14	13	16	6	1
108	Lobar pneumonia	154	46	44	5	13	18	25	22	6	1
109	Pneumonia (unspecified)	29	11	7	1	2	5	3	3	4	—
110	Pleurisy	10	3	4	—	—	2	3	2	—	—
111	Congestion, œdema, hæmorrhagic infarction of lung	6	5	6	—	2	2	3	4	—	—
112	Asthma	23	18	20	—	5	8	12	7	6	—
114	Other diseases of respiratory system	3	2	—	—	—	2	—	—	—	—
115	Diseases of the buccal cavity, annexa, pharynx	19	6	2	1	—	3	3	1	—	—
116	Diseases of œsophagus	1	—	—	—	—	—	—	—	—	—
117	Ulcer of the stomach and duodenum	6	7	8	—	4	3	5	1	2	—
118 : 1	Inflammation of the stomach	1	1	—	—	—	—	—	1	—	—
118 : 2	Other diseases of the stomach	—	1	3	—	—	1	1	2	—	—
120	Enteritis and diarrhœa	11	4	7	—	—	5	2	3	1	—
121	Appendicitis	27	28	28	—	14	20	11	9	2	—
122	Hernia, intestinal obstruction	33	13	17	1	5	5	5	11	2	1
124b	Cirrhosis of liver (without alcoholism)	—	2	—	—	—	—	—	1	1	—
125	Other diseases of the liver	2	1	1	—	1	—	1	—	—	—
126	Biliary calculi	5	—	2	—	—	1	—	1	—	—
127	Other diseases of gall bladder and bile ducts	1	1	2	—	—	1	1	1	—	—
128	Diseases of pancreas	3	1	5	—	1	1	1	1	2	—
129	Peritonitis	2	1	3	—	2	1	—	—	1	—
130	Acute nephritis	3	6	8	—	1	7	2	2	1	1
131	Chronic nephritis	130	81	77	—	9	30	43	46	29	1
132	Nephritis not acute or chronic	4	2	3	—	1	1	2	—	1	—
133	Diseases of the kidney and ureters	17	12	11	1	5	3	5	7	2	—
134	Calculi of the urinary passages	8	3	—	—	—	2	—	—	1	—
135	Diseases of the bladder	3	1	3	—	1	1	2	—	—	—
139	Diseases of the female genital organs	12	3	6	1	2	—	1	3	2	—
151	Carbuncles, boils	—	1	—	—	—	1	—	—	—	—
152	Cellulitis, acute abscess	2	2	2	—	—	1	1	2	—	—
153	Other diseases of the skin and cellular tissue	—	—	2	—	—	—	1	—	1	—
154	Osteomyelitis and periostitis	1	1	3	—	1	—	1	2	—	—
155	Other diseases of the bones	1	—	—	—	—	—	—	—	—	—
156	Diseases of the joints and other organs of movement	3	3	3	—	1	1	3	—	1	—
157	Congenital malformations	7	19	18	1	7	16	5	5	3	—
163–198	Violence	23	55	116	4	36	50	39	33	8	1
	Total	**1,697**	**1,241**	**1,290**	**66**	**392**	**580**	**649**	**562**	**253**	**29**
	Single	82	67	82	23	49	28	26	13	10	—
	Married	1,598	1,157	1,184	43	342	545	613	533	239	26
	Widowed	17	17	24	—	1	7	10	16	4	3
	Associated with abortion (included above)	234	152	128	8	38	57	67	83	25	2
	Single	9	13	6	1	11	4	—	2	1	—
	Married	222	136	118	7	27	52	65	78	23	2
	Widowed	3	3	4	—	—	1	2	3	1	—

Table CXVI classifies the deaths in each year 1940–45 with mention of Cæsarean section on the death certificate, according to the reason stated on the certificate. One-fifth of these deaths were attributed to conditions other than complications of pregnancy and childbirth.

Table CXVII analyses the deaths in the whole period 1940–45 according to the outcome of the pregnancy, the necessary information being obtained by medical enquiries in cases where the certificate did not supply it. No information was obtained regarding 983 out of the total of 9,361 deaths. The International List in its revised form attempts to distinguish deaths occurring in the pregnant state, with which are included deaths from ectopic pregnancy, from fatal abortions and deaths following childbirth. In the case of a death during childbirth from one of the causes listed in No. 149, such as obstructed

labour due to contracted pelvis, delivery may not have been effected before death occurs, and such cases belong more properly to No. 145, accidents of pregnancy, according to the definitions laid down by the List. In 1940–43 there were 38 such deaths as shown in the table, but from 1944 onwards they were classified to No. 145, and the 38 may be added to the total for that group.

The table shows that of 5,280 deaths following or accompanied by delivery of a live- or still-born child, 3,345 or 63·3 per cent. were associated with one or more live births, 1,879 or 35·6 per cent. with one or more stillbirths, and 1·1 per cent. with both a live and still birth. The corresponding proportions for all maternities in 1940–45 were 96·9, 3·0 and 0·1 per cent., so the expectation of a stillbirth resulting from a delivery from which the mother died was 12 times as great as when the mother survived. The different causes of maternal death are arranged below in ascending order of the proportion accompanied by a stillbirth :

	Live birth	Still birth	Live and Still birth
All maternities, with or without maternal death ..	96·9	3·0	0·1
Hæmorrhage after childbirth	84·9	14·3	0·8
Thrombophlebitis, embolism	84·0	14·8	1·2
General and local infection	71·1	27·9	1·0
Other accidents of childbirth	62·5	36·3	1·2
Acute yellow atrophy	52·2	47·3	0·5
Eclampsia, albuminuria	48·7	49·9	1·4
Other toxæmias	45·7	53·7	0·6
Placenta prævia	39·4	60·6	—
Other hæmorrhage of childbirth	29·6	67·6	2·8
Premature separation of placenta	12·5	85·7	1·8

The age-distributions of women dying at childbirth with delivery of a live- and still-born child respectively differ slightly as shown by the comparative percentages below :—

	15–	20–	25–	30–	35–	40–	45–
Live-born	3·2	16·5	24·9	26·8	20·1	7·8	0·7
Stillborn	2·1	15·4	22·4	25·6	21·6	11·1	1·8

Table CXVI.—Deaths, including those of non-civilians, with mention of Cæsarean Section, 1940 to 1945.

	1940	1941	1942	1943	1944	1945
Classed to Nos. 146–150						
Placenta prævia	10	11	21	20	19	12
Toxæmias	14	19	16	15	11	17
Contracted pelvis	22	15	29	18	24	12
Malpresentation	4	12	9	7	9	11
Disproportion	9	18	13	23	22	19
Difficult labour	10	8	13	6	6	9
Other complications ..	16	11	22	17	32	20
Reason not stated	22	27	18	15	26	12
Classed to other causes ..	17	26	32	39	41	29
Total with mention of Cæsarean Section	**124**	**147**	**173**	**160**	**190**	**141**

Table CXVII.—Deaths, including those of non-civilians, from Pregnancy and Childbearing classified by Cause, Age, Civil Condition and Outcome of Pregnancy, 1940–45.

	Cause of Death	Deaths following or accompanied by				Deaths in the pregnant state	No information received	Total
		Live birth(s)	Still-birth(s)	Live and still birth	Abortion			
140–150.	**All Causes**							
	1940	557	377	7	268	265	166	1,640
	1941	555	319	11	325	257	211	1,678
	1942	647	303	14	313	249	147	1,673
	1943	584	305	9	322	206	192	1,618
	1944	536	323	5	315	170	141	1,490
	1945	466	252	10	234	174	126	1,262
	1940–45 Total	**3,345**	**1,879**	**56**	**1,777**	**1,321**	**983**	**9,361**
	Single	181	130	1	270	90	47	719
	Married	3,138	1,737	53	1,452	1,215	911	8,506
	Widowed and divorced	26	12	2	55	16	25	136
	Ages: 15–	109	40	—	45	34	16	244
	20–	551	290	7	282	178	131	1,439
	25–	832	420	12	448	269	228	2,209
	30–	898	481	21	493	333	242	2,468
	35–	671	405	13	362	339	190	1,980
	40–	260	209	3	138	138	128	876
	45 and over	24	34	—	9	30	48	145
140–141	Abortion	—	—	—	1,777	—	—	1,777
142	Ectopic gestation	—	—	—	—	357	—	357
143a	Placenta prævia	—	—	—	—	79	—	79
b	Premature separation	—	—	—	—	39	—	39
c	Other hæmorrhage of pregnancy	—	—	—	—	27	—	27
144a, b	Eclampsia and albuminuria of pregnancy	—	—	—	—	432	—	432
c	Acute yellow atrophy	—	—	—	—	50	—	50
d	Other toxæmias of pregnancy	—	—	—	—	163	—	163
145	Other diseases and accidents of pregnancy	—	—	—	—	136	—	136
146a	Placenta prævia (with childbirth)	106	163	—	—	—	56	325
b	Premature separation (with childbirth)	7	48	1	—	—	7	63
c	Other hæmorrhages of childbirth	21	48	2	—	—	6	77
d	Other hæmorrhages after childbirth	541	91	5	—	—	114	751
147a, b	General or local puerperal infection	482	189	7	—	—	166	844
c	Puerperal thrombophlebitis	224	34	3	—	—	66	327
d	Puerperal embolism and sudden death	281	55	4	—	—	59	399
148a, b	Puerperal eclampsia and albuminuria	511	523	15	—	—	106	1,155
c	Acute yellow atrophy (with childbirth)	95	86	1	—	—	15	197
d	Other puerperal toxæmias	80	94	1	—	—	43	218
149	Other accidents of childbirth	915	530	17	—	38*	313	1,813
150a	Mastitis	24	2	—	—	—	5	31
b	Puerperal psychoses	22	2	—	—	—	8	32
c	Other conditions	36	14	—	—	—	19	69

* These 38 deaths, which occurred in 1940–43, were due to conditions listed under International List No. 149, "Other accidents of childbirth," though enquiry showed that there had been no delivery. Such cases could be more suitably assigned to International List No. 145, "Other diseases and accidents of pregnancy," and were so assigned from 1944 onwards.

Table CXVIII shows the distribution of the deaths according to the number of previous pregnancies, distinguishing deaths in the pregnant state, those following abortion and those accompanied by a live and still birth. The proportion of first pregnancies was 47 per cent., compared with about 43 per cent. for all legitimate maternities in 1940–45; and the proportion with five or more previous pregnancies was 11 per cent. Of the deaths in the pregnant state 44 per cent. were first, and 14 per cent. were sixth or later pregnancies; and of the abortion deaths 18 per cent. were first and 15 per cent. were sixth or later pregnancies. When maternal death resulted from a multiple birth the pregnancy was a first one in 54 per cent., and had been preceded by five or more pregnancies in seven per cent. Of those deaths accompanied by a single live birth, 56 per cent. occurred at first pregnancies; and amongst those with a single stillbirth the proportion was 52 per cent.

Table CXIX gives the mean annual rates of maternal mortality and fatal abortion, with distinction of sepsis, in each region and class of area in the whole period 1940–45, and also the notification rates for puerperal pyrexia. The highest rates for maternal sepsis were in the South West and Wales, and the lowest were in Greater London and the rest of the South East, the order of ranking being much the same for other maternal causes of death. Puerperal pyrexia notification rates, on the contrary, were highest in Greater London and lowest in Wales, and were twice as great in county boroughs as in rural districts, although the death-rate from maternal sepsis was greater in rural than in urban areas. Post-abortive sepsis death-rates were highest in Greater London and Wales I, and lowest in the rest of the South East, the East and South West, the county borough rate being twice that of the rural districts.

Table CXVIII.—Deaths of Married Women, including non-civilians, classed to Pregnancy and Childbearing according to previous Fertility and Outcome of the Pregnancy which resulted in Death. 1940–45.

Number of previous pregnancies	Total of known birth order	With live or still birth					Total with live or still birth	With abortion	Deaths in the pregnant state
		Single birth		Multiple birth					
		Live	Still	Live only	Live and still	Still only			
0 ..	3,069	1,567	823	74	25	23	2,512	200	357
1 ..	1,211	549	247	21	8	2	827	243	141
2 ..	766	269	132	22	8	4	435	237	94
3 ..	493	140	111	8	2	4	265	160	68
4 ..	330	89	74	4	2	2	171	115	44
5 ..	218	63	45	6	—	—	114	67	37
6 ..	148	33	46	2	1	1	83	40	25
7 ..	102	25	31	1	1	—	58	28	16
8 ..	70	21	21	—	—	—	42	16	12
9 ..	58	22	16	1	—	1	40	10	8
10 ..	30	7	16	—	—	—	23	4	3
11 ..	26	8	9	1	—	—	18	4	4
12 ..	26	9	13	—	—	—	22	—	4
13 ..	7	2	2	—	1	—	5	2	—
14 ..	9	2	3	—	—	—	5	1	3
15 ..	5	1	2	—	—	—	3	—	2
16 ..	1	1	—	—	—	—	1	—	—
17 ..	1	—	—	—	—	—	—	1	—
19 ..	1	—	1	—	—	—	1	—	—
20 ..	1	—	1	—	—	—	1	—	—
Totals of above.	**6,572**	**2,808**	**1,593**	**140**	**48**	**37**	**4,626**	**1,128**	**818**
Birth order unknown.	—	184	103	6	5	4	302	145	121

Table CXIX.—Distribution throughout England and Wales of Mortality, including non-civilians, from Pregnancy, Childbirth, and Abortion, and of Prevalence of Puerperal Pyrexia. 1940–45.

	Per 1,000 live and still births						
	Deaths from						Cases of pyrexia per 100 deaths from sepsis
	Maternal causes (excluding abortion)		Post-abortive sepsis	Other abortion	Total, including abortion	Cases of pyrexia*	
	Sepsis	Other					
England and Wales ..	**0·38**	**1·47**	**0·31**	**0·12**	**2·29**	**11·5**	**1,652**
South East	0·29	1·22	0·33	0·11	1·95	12·7	2,057
Greater London ..	0·27	1·08	0·44	0·12	1·91	13·6	1,922
Remainder ..	0·32	1·39	0·19	0·10	2·00	11·5	2,283
North	0·42	1·60	0·35	0·15	2·52	10·8	1,410
North I	0·41	1·73	0·37	0·23	2·74	10·8	1,391
North II	0·44	1·66	0·30	0·23	2·63	10·7	1,456
North III	0·39	1·46	0·34	0·11	2·30	10·4	1,438
North IV	0·43	1·62	0·35	0·13	2·54	11·0	1,394
Midland	0·38	1·44	0·26	0·08	2·14	11·8	1,869
Midland I ..	0·37	1·46	0·27	0·08	2·18	11·7	1,836
Midland II ..	0·39	1·38	0·24	0·07	2·08	12·1	1,936
East	0·46	1·33	0·19	0·14	2·11	11·3	1,749
South West	0·54	1·75	0·21	0·11	2·61	11·0	1,474
Wales	0·52	2·00	0·38	0·17	3·08	8·5	943
Wales I	0·52	2·07	0·44	0·19	3·21	10·0	1,054
Wales II	0·53	1·83	0·22	0·12	2·71	4·2	567
County boroughs† ..	0·37	1·42	0·36	0·13	2·28	15·2	2,071
Other urban districts†	0·42	1·63	0·27	0·13	2·44	9·3	1,351
Rural districts† ..	0·45	1·64	0·18	0·11	2·38	7·2	1,141

* Includes puerperal fever where notified separately.
† Excluding Greater London.

163, 164. **Suicide.**—Deaths of males by suicide in the five years 1935–39 numbered 3,525, 3,441, 3,447, 3,556, 3,350, and in the six years 1940–45 there were 3,259, 2,811, 2,477, 2,498, 2,494, 2,497. For females the corresponding numbers were 1,659, 1,602, 1,678, 1,724, 1,689 and 1,623, 1,342, 1,326, 1,348, 1,268, 1,436. Table CXX gives the details by age-groups in each year 1940–45, and distinguishes the deaths of non-civilians registered in England and Wales. The fall in total deaths for each sex which occurred after 1940 was remarkable, and was distributed over every age-group of adults.

Table CXXI gives the death-rates at ten age-groups from 1861–70 to 1931–35, and in each year 1936 to 1945. Prior to 1940 self-induced abortion with fatal outcome was classed as suicide, but now appears as International Nos. 140ba (with sepsis) and 141ba (without sepsis) alongside other abortion deaths. The numbers of such deaths in successive years 1940 to 1945 were 35, 52, 33, 46, 41, 31, and the 120 deaths in 1940–42 were distributed by ages as follows: 5 at 15–20, 12 at 20–25, 69 at 25–35, 34 at 35–45. The numbers of suicides of civilian women at those ages in the same years were 58, 102, 534 and 772, and it is therefore necessary for comparison with death-rates prior to 1940 to increase the rates for 1940–45 in Table CXXI by about ten per cent. for females between 15 and 35 and five per cent. at 35–45.

The table below compares the averages of the annual rates, so corrected, in 1936–40 and 1941–45 with the mean annual rates in 1921–25 and 1931–35 at various ages :—

	10–	15–	20–	25–	35–	45–	55–	65–	75 and over
Males									
1921–25 ..	2	28	71	100	200	326	457	493	408
1931–35 ..	2	39	96	141	209	379	542	534	483
1936–40 ..	2	30	85	116	173	284	461	479	466
1941–45 ..	3	37	91	105	126	183	271	347	382
Females									
1921–25 ..	1	23	40	48	78	120	125	92	60
1931–35 ..	—	23	49	77	108	153	165	135	84
1936–40 ..	1	15	39	66	99	155	168	143	90
1941–45 ..	1	10	25	57	81	108	128	117	73

The period 1921–25 was on the whole one of comparative prosperity, whereas 1931–35 was a period of comparative depression and suicide rates were then much higher at every age of males over 15 and of females over 20. In 1936–40 the rates were intermediate between those levels amongst males aged 15–35 and over 75, and amongst females aged 25–45 ; and they fell back to or below the 1921–25 levels amongst males aged 35–75 and females 15–25. Contrasting with this recovery, women over 45 registered further increases in their suicide rates in 1936–40, reaching higher levels at each age than at any other period shown in Table CXXI.

In 1941–45 suicide rates were lower than in either 1936–40 or 1931–35 for each group of males over 25, and for every group of females, the fall being very pronounced amongst men over 35 and women over 45. Comparing the 1941–45 rates with those as far back as 1901–10, the percentage increments and decrements were as follows :—

	15–	20–	25–	35–	45–	55–	65–	75 and over
Males ..	+ 3	0	−31	−50	−54	−48	−32	0
Females ..	−71	−44	+ 2	+ 1	− 1	+17	+33	+49

Table CXX.—Suicide : Numbers of Deaths of Civilians, and of non-Civilians, registered in England and Wales, at different Ages. 1940 to 1945.

	Deaths of Civilians							Deaths of non-Civilians registered in England and Wales				
	0–	15–	25–	45–	65–	75 and over	All ages	15–	25–	45–	65 and over	All ages
Males												
1940	4	110	684	1,344	553	199	2,894	135	198	32	—	365
1941	4	100	572	1,008	459	175	2,318	137	322	34	—	493
1942	5	99	492	920	417	162	2,095	117	237	28	—	382
1943	3	97	537	951	449	148	2,185	93	204	16	—	313
1944	4	96	473	986	435	196	2,190	72	215	17	—	304
1945	6	78	462	1,005	468	219	2,238	51	190	17	1	259
Females												
1940	1	69	468	796	226	63	1,623	—	—	—	—	—
1941	—	48	417	650	178	46	1,339	2	1	—	—	3
1942	2	43	421	619	178	58	1,321	4	1	—	—	5
1943	1	48	463	593	188	50	1,343	4	1	—	—	5
1944	—	45	400	569	188	55	1,257	3	7	1	—	11
1945	1	54	441	665	206	65	1,432	2	2	—	—	4

Table CXXI.—Suicide : Mean Annual Death-rates at different ages, 1861–1945. Comparative Mortality Indices 1931–45.

	Mean annual rates per million living*										C.M.I.* (1938 base)
	0–	10–	15–	20–	25–	35–	45–	55–	65–	75 and over	
Males											
1861–70 ..	–	4	28	59	93	163	263	377	359	251	—
1871–80 ..	–	4	24	64	104	179	276	408	416	335	—
1881–90 ..	–	4	29	67	117	202	310	437	478	373	—
1891–1900	–	5	34	84	142	241	348	456	479	386	—
1901–10 ..	–	4	36	91	152	252	397	523	508	382	—
1911–20 ..	–	3	32	69	122	196	278	389	380	350	—
1921–25 ..	–	2	28	71	100	200	326	457	493	408	—
1926–30 ..	–	2	35	84	122	222	366	513	530	464	—
1931–35 ..	–	2	39	96	141	209	379	542	534	483	1·044
1936 ..	–	2	29	91	120	192	300	491	478	436	0·993
1937 ..	–	4	32	81	132	173	298	467	497	455	0·981
1938 ..	–	1	28	78	123	185	308	490	496	505	1·000
1939 ..	–	1	35	87	109	164	270	464	467	445	0·922
1940 ..	–	3	27	88	95	150	243	393	457	487	0·833
1941 ..	–	3	37	81	100	130	180	295	374	414	0·688
1942 ..	–	3	42	77	96	117	172	258	331	366	0·630
1943 ..	–	2	38	104	110	140	182	262	348	314	0·668
1944 ..	–	3	34	111	108	126	190	269	332	395	0·669
1945 ..	–	4	34	82	110	116	189	272	352	421	0·668
Females†											
1861–70 ..	–	3	31	31	35	53	84	87	83	70	—
1871–80 ..	–	3	26	33	39	54	81	95	92	64	—
1881–90 ..	–	3	34	40	43	64	84	92	86	53	—
1891–1900	–	4	37	41	52	76	96	100	88	52	—
1901–10 ..	–	3	34	45	56	80	109	109	88	49	—
1911–20 ..	–	2	30	41	50	74	100	102	81	52	—
1921–25 ..	–	1	23	40	48	78	120	125	92	60	—
1926–30 ..	–	0	27	45	66	96	148	158	123	66	—
1931–35 ..	–	–	23	49	77	108	153	165	135	84	0·973
1936 ..	–	–	19	39	61	99	164	161	134	68	0·953
1937 ..	–	1	13	46	73	100	155	162	152	83	0·989
1938 ..	–	1	15	39	68	103	163	176	134	96	1·000
1939 ..	–	1	12	39	72	101	154	164	144	107	0·980
1940 ..	–	1	15	28	51	89	138	175	151	94	0·919
1941 ..	–	–	11	20	55	70	113	140	117	67	0·756
1942 ..	–	1	11	18	48	78	111	127	114	81	0·739
1943 ..	–	1	7	25	54	86	104	122	117	66	0·746
1944 ..	–	–	5	24	48	74	97	118	114	70	0·693
1945 ..	–	1	10	27	55	78	113	135	122	79	0·781

* Civilians only from 3rd September, 1939, for males, and from 1st June, 1941, for females.

† The female rates up to and including 1939 include some cases of self-induced abortion, which was excluded from suicide from 1940.

The large decreases amongst men aged 35–55 were in progress before the war ; but at ages 25–35 and 55–75 they were a war-time phenomenon. The decline amongst girls of 15–20 has also been progressing for a long time, but at 20–25 it occurred only in the war. Amongst women over 45 suicide rates were rising steadily and considerably up to 1938–39 and then fell suddenly after 1940, though not quite so far as to regain the levels of 40 years before.

These movements all suggest that fuller employment conduces to lower suicide frequency, even in groups whose work has become so hard as to cause continual complaint.

The means by which suicide was effected are shown in considerable detail in Tables 6 and 21 ; and comparison is made below between the frequencies in three years 1935, 1940 and 1945 for each sex.

	Number of deaths (civilians in 1940, 1945)					
	Males			Females		
	1935	1940	1945	1935	1940	1945
Poisoning by—						
Corrosives	180	116	60	190	143	67
Narcotics, soporifics, etc	42	44	49	59	84	82
Coal gas	1,081	947	732	676	758	683
Motor exhaust gas	20	18	5	2	4	1
Other poisons	122	60	68	64	45	33
Hanging, strangulation	616	546	483	179	161	130
Drowning	459	369	295	287	237	267
Firearms, explosives	221	262	184	6	21	22
Cutting or piercing instruments	491	319	222	75	59	41
Jumping from high places	104	103	52	66	64	61
On railways	170	86	80	44	32	32
Crushing by other means	9	11	5	—	2	2
Other and unspecified means	10	13	3	11	13	11
Total	**3,525**	**2,894**	**2,238**	**1,659**	**1,623**	**1,432**

169. **Deaths caused by Railway Accidents.**—In the five years 1935–39 the annual deaths averaged 429, and in successive years 1940–45 there were 546, 550, 570, 588, 597, 581. The annual average of 572 during the war years, comprising 456 civilian males, 53 civilian females and 63 non-civilians of both sexes, was considerably higher than in the years preceding.

Table 25 shows that of 1,354 deaths in 1941, 1943 and 1945 of civilian males, 51 were due to accidents to trains, 142 to other accidents to occupants of trains, 834 to being run over and 327 to other accidents on railway lines. Of the total, 721 or 53 per cent. were indicated as occupational.

170, 171. **Deaths caused by Motor and Other Road Vehicles.**—Deaths from motor vehicle accidents (No. 170) in the four years 1935–38 numbered 5,240, 5,354, 5,463, 5,474, showing little variation. In 1939 the number rose to 6,822, in 1940 to 7,037 and in 1941 to 7,720 ; but the next four years brought a fall to the pre-war level and below, with 5,481, 4,251, 4,796, 4,131. The numbers of non-civilians included in the above numbers for years 1939–45 were 184, 1,019, 1,328, 849, 676, 802, 533.

Deaths from tramway accidents on roads (No. 171a), as shown in Table 6, excluding collisions between trams and motor vehicles, averaged about 64 annually in 1935–38, and then increased to 108 in 1939 and 177 in 1940 ; and in the five years following there were 152, 112, 132, 95, 75. From other road transport accidents involving neither a tram nor a motor vehicle (No. 171b), the annual numbers of deaths from 1935 to 1945 were 736, 589, 576, 529, 546, 525, 485, 494, 523, 447, 366, no increase attributable to war conditions being apparent like those for tram and motor vehicle fatalities.

Table CXXII gives the civilian death-rates by sex and age from motor vehicle accidents only, in triennial periods from 1925–27 to 1934–36 and each year 1937–1945. The comparability between years 1940–45 and those preceding is disturbed to some extent by changes in definitions, particularly by the inclusion prior to 1940 of tramway accidents not involving another road motor vehicle, which increases those rates by about one per cent. The effects of these differences are not such as to invalidate the general trends of the rates and no corrections have been attempted in the table. Death-rates at all ages combined reached a stationary level in 1928–33, and then declined until 1938. They were considerably raised in 1939–41 and then fell back again to 1925–27 level by 1945. The rates at separate age-groups in 1925–27, 1931–33, 1941 and 1945, are expressed below as percentages of the rates in 1938.

	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75 and over
Males											
1925–27 ..	78	103	93	76	61	67	80	88	75	83	80
1931–33 ..	104	127	96	120	102	104	101	105	100	109	116
1938	100	100	100	100	100	100	100	100	100	100	100
1941	132	141	126	113	89	121	145	156	161	146	140
1945	102	127	99	69	55	60	68	69	64	72	66
Females											
1925–27 ..	75	107	76	62	75	73	96	84	88	77	55
1931–33 ..	121	155	109	100	137	110	137	123	122	103	80
1938	100	100	100	100	100	100	100	100	100	100	100
1941	156	173	150	106	125	127	142	128	106	83	70
1945	107	133	121	65	63	73	87	70	65	49	49

The relative increase in mortality in 1941 was greatest amongst girls under 15 and men of 35–75, and was small or absent for girls of 15–20, women over 55 and men aged 20–25. Increased military and industrial traffic, the blackout, evacuation of children and more night work by civilian men probably accounted for these changes. Rates in 1945 were still well above pre-war levels amongst boys of 5–10 and girls under 15, but they had fallen well below for all adult age groups. Reduction of private motor traffic and laxer control of children were probably the main factors responsible for this.

The high mortality from road vehicle accidents of children continues to be a serious problem. In 1945 there were 521 deaths from this cause at ages 5–10 and 230 at ages 10–15, representing 15·5 and 9·1 per cent. respectively of the deaths from all causes, and 52 and 42 per cent. of all accidental deaths.

Table CXXIII analyses the deaths from all road vehicle accidents (Nos. 170, 171) in each year 1940–45 according to the kind of accident and whether the deceased was a pedestrian, pedal cyclist, motor cyclist, occupant of other type of motor vehicle or occupant of a non-motor vehicle. The definitions of the various types of vehicle are given below the table. This table includes deaths of non-civilians.

Comparison of three periods 1940–41, 1942–43 and 1944–45, in which there were 16,096, 10,993, 9,910 deaths respectively, leads to the following percentage distributions of the deaths by definition of the person killed.

	Males			*Females*		
	1940–41	1942–43	1944–45	1940–41	1942–43	1944–45
Percentage of total—						
Pedestrians	51	51	49	71	71	71
Pedal cyclists	15	18	20	12	15	15
Motor cyclists	18	14	12	3	2	1
Occupants of other motors ..	15	16	18	13	11	12
Occupants of non-motor vehicles	1	1	1	1	1	1
Total number of deaths	12,821	8,462	7,358	3,275	2,531	2,552

Table CXXII.—Death-rates per Million living from All Accidents caused by Road Motor Vehicles, by Sex and Age. 1925–27, 1928–30, 1931–33, 1934–36, and each year 1937 to 1945.*

Age-group	1925–27	1928–30	1931–33	1934–36	1937	1938	1939	1940	1941	1942	1943	1944	1945
	MALES												
0–	107	142	143	135	111	137	116	146	181	160	113	126	140
5–	195	250	242	204	185	190	197	197	268	261	238	268	241
10–	102	132	106	105	91	110	108	116	139	102	96	118	109
15–	151	231	238	217	188	198	200	200	223	137	111	112	137
20–	233	365	393	386	404	384	360	325	340	218	134	129	213
25–	146	221	228	209	202	219	241	210	266	180	128	133	131
35–	112	147	142	144	147	140	180	182	203	140	116	124	95
45–	134	166	160	170	159	153	231	224	239	175	136	129	105
55–	170	239	228	220	224	228	367	364	367	239	187	202	146
65–	301	400	395	358	364	363	582	552	529	393	275	322	261
75 and over ..	490	738	711	672	628	615	1,074	946	863	628	447	492	406
All ages ..	**159**	**226**	**225**	**214**	**207**	**211**	**263**	**253**	**278**	**204**	**159**	**174**	**154**
	FEMALES												
0–	55	87	88	83	70	73	68	82	114	96	76	91	78
5–	92	129	133	112	92	86	88	101	149	117	96	133	114
10–	26	40	37	35	36	34	36	36	51	32	36	49	41
15–	32	50	52	61	64	52	58	55	55	34	33	36	34
20–	30	57	55	54	68	40	55	46	50	42	28	30	25
25–	22	31	33	33	29	30	34	32	38	33	21	27	22
35–	23	33	33	27	31	24	32	30	34	29	21	24	21
45–	36	57	53	47	51	43	48	49	55	38	30	33	30
55–	75	95	104	86	88	85	100	80	90	58	46	55	55
65–	140	190	186	185	176	181	211	151	151	116	83	100	89
75 and over ..	179	276	260	297	296	325	335	238	226	170	154	160	158
All ages ..	**48**	**71**	**72**	**69**	**69**	**64**	**73**	**64**	**74**	**56**	**45**	**54**	**49**

* Excluding non-civilians after 3rd September, 1939, for Males and after 1st June, 1941, for Females.

The figures for years before 1940 include all tramway accidents ; those for 1940 onwards include only tramway accidents in which a motor vehicle was involved. The all ages rates for 1937, 1938 and 1939 comparable with those for 1940 onwards are 204, 208 and 258 for Males and 68, 63 and 72 for Females.

Table CXXIII.—Deaths, including those of non-civilians, caused by Road Accidents involving various types of vehicles. 1940 to 1945.

List No.	Nature of accident	Sex	1940	1941	1942	1943	1944	1945
170c (part)	*Motor vehicle accident causing death of pedestrian by :—*							
	Motor cycle	M.	161	151	134	70	72	48
		F.	56	83	54	34	44	38
	Motor goods vehicle ..	M.	955	1,100	950	792	956	703
		F.	397	500	439	386	481	355
	Motor bus, trolley bus ..	M.	677	728	587	466	437	287
		F.	193	223	225	187	194	157
	Motor car, coach	M.	1,124	1,062	488	355	390	398
		F.	352	343	158	136	178	211
	Other road motor vehicle (including collision unspecified).	M.	46	57	31	35	50	18
		F.	15	8	18	13	14	12
c (part)	*Motor vehicle non-collision accident causing death of occupant or rider of :—*							
	Motor cycle	M.	283	316	244	155	129	145
		F.	19	15	14	—	4	8
	Motor goods vehicle ..	M.	240	338	308	282	289	224
		F.	8	16	24	13	15	23
	Motor bus, trolley bus ..	M.	60	85	67	80	43	56
		F.	26	57	58	40	47	59
	Motor car, coach	M.	135	132	69	65	49	101
		F.	54	49	27	16	14	37
	Other road motor vehicle	M.	4	12	5	14	12	8
		F.	1	—	—	3	7	3
a	*Collision between motor vehicle and train, causing death of :—*							
	Motor cyclist	M.	—	1	—	—	1	—
		F.	—	—	—	—	—	—
	Occupant of motor vehicle	M.	4	17	6	21	10	20
		F.	—	1	—	4	1	1
	Passenger or other person	M.	—	4	—	—	—	2
		F.	1	1	—	—	—	—
b	*Collision between motor vehicle and tramcar, causing death of :—*							
	Motor cyclist	M.	1	3	2	1	1	—
		F.	—	—	—	—	—	—
	Occupant of motor vehicle	M.	1	1	4	2	3	—
		F.	—	1	—	—	2	—
	Tram passenger or other person	M.	—	1	—	—	1	—
		F.	—	—	—	—	—	—
c (part)	*Other collision, involving a motor vehicle, causing death of:—*							
	Pedal cyclist by :—							
	Motor cycle	M.	35	33	34	20	20	14
		F.	2	5	2	1	3	2
	Motor goods vehicle ..	M.	340	326	280	238	324	229
		F.	70	87	68	75	105	56
	Motor bus, trolley bus ..	M.	95	104	86	83	69	69
		F.	14	18	20	11	19	17
	Motor car, coach ..	M.	274	262	161	100	129	153
		F.	59	59	39	34	40	29
	Other road motor vehicle	M.	8	9	6	7	20	10
		F.	—	1	1	1	4	3
	Motor cyclist	M.	811	883	512	272	306	286
		F.	23	37	19	13	8	17

Table CXXIII.—(*contd.*)

List No.	Nature of accident	Sex	1940	1941	1942	1943	1944	1945
c (part) *contd.*	Occupant of :—							
	Motor goods vehicle ..	M.	139	185	130	120	147	105
		F.	9	15	10	8	11	8
	Motor bus, trolley bus ..	M.	15	23	14	10	7	8
		F.	9	4	13	5	3	3
	Motor car, coach ..	M.	217	257	110	62	88	121
		F.	86	84	46	13	25	52
	Other road motor vehicle	M.	3	2	4	2	3	4
		F.	—	—	2	—	—	2
	Non-motor road vehicle (except tramcar, pedal cycle)	M.	14	17	9	5	9	11
		F.	1	4	3	1	3	—
c (part)	*Ill-defined motor vehicle accident causing death of :—*							
	Other or unspecified person*	M.	—	—	—	—	9	17
		F.	—	—	—	—	—	1
	TOTAL motor road vehicle fatalities	M.	**5,642**	**6,109**	**4,241**	**3,257**	**3,574**	**3,037**
		F.	**1,395**	**1,611**	**1,240**	**994**	**1,222**	**1,094**
171	*Road transport accidents involving only non-motor vehicle(s) causing death of :—*							
	Pedestrian by :—							
	Tramcar	M.	120	94	67	70	51	33
		F.	28	29	26	32	24	21
	Pedal cycle	M.	109	79	67	68	57	34
		F.	55	46	28	39	26	30
	Other non-motor vehicle	M.	27	48	45	40	48	28
		F.	2	8	11	11	7	13
	Pedal cyclist by :—							
	No other vehicle ..	M.	245	222	222	242	208	168
		F.	42	33	53	63	37	39
	Tramcar	M.	2	—	—	2	1	—
		F.	1	—	—	—	—	1
	Other non-motor vehicle	M.	15	15	21	15	21	14
		F.	3	3	4	7	8	8
	Occupant of tramcar ..	M.	15	18	14	13	7	9
		F.	5	9	3	13	7	7
	Occupant of other non-motor vehicle	M.	31	30	41	37	35	33
		F.	2	3	4	3	5	3
	TOTAL non-motor road vehicle fatalities	M.	**564**	**506**	**477**	**487**	**428**	**319**
		F.	**138**	**131**	**129**	**168**	**114**	**122**
170 and 171	Total pedestrians	M.	3,219	3,319	2,369	1,896	2,061	1,549
		F.	1,098	1,241	959	838	968	837
	Total pedal cyclists	M.	1,014	971	810	707	792	657
		F.	191	206	187	192	216	155
	Total motor cyclists ..	M.	1,095	1,203	758	428	437	431
		F.	42	52	33	13	12	25
	Total occupants of motor vehicles (except cycles) ..	M.	818	1,052	717	658	651	647
		F.	193	227	180	102	125	188
	Total occupants of non-motor vehicles	M.	60	70	64	55	52	54
		F.	9	16	10	17	15	10
	Total other or unspecified persons	M.	—	—	—	—	9	18
		F.	—	—	—	—	—	1

Notes

(1) " Motor goods vehicle " includes road motor vehicles not primarily used for conveying people, *e.g.*, van, lorry, tractor, fire-engine.

(2) " Motor car, coach " includes taxicab, motor car unspecified.

(3) " Other road motor vehicle " includes vehicles used for conveying people which are not included in the other motor vehicle categories of this table, *e.g.*, ambulance, motor hearse, invalid carriage. It also includes motor vehicle unspecified.

(4) " Other non-motor vehicle " includes animal-drawn vehicle, wheel chair, non-motor vehicle unspecified and vehicle unspecified.

* This category was not used until 1944. Before this date such deaths were assigned to other categories in this table according to the limited information available.

The proportions of pedestrians remained remarkably constant during the war despite the great fall in total deaths. The proportions of pedal cyclists increased as those of motor cyclists diminished. In 1938, out of 4,482 and 1,458 deaths of males and females respectively, 41 and 70 per cent. were pedestrians, 23 and 12 per cent. pedal cyclists, 23 and 6 per cent. motor cyclists, 14 and 13 per cent. occupants of other vehicles.

Analysis of the deaths of pedestrians and pedal cyclists according to the kind of accident gives the following :—

	Pedestrians			*Pedal cyclists*		
	1940–41	1942–43	1944–45	1940–41	1942–43	1944–45
Percentage of total—						
Motor cycle	5	5	4	3	3	2
Motor goods vehicle.. ..	33	42	46	34	35	39
Motor bus	21	24	20	10	10	10
Motor car, coach	33	19	21	27	18	19
Other motor vehicle.. ..	1	2	2	1	1	2
Tramcar	3	3	2	0	0	0
Pedal cycle (only)	3	3	3	23	31	25
Other non-motor vehicles ..	1	2	2	2	2	3
Total number of deaths.. ..	8,877	6,062	5,415	2,382	1,896	1,820

Of pedestrian deaths about 22 per cent. were caused by motor buses, a considerably higher proportion than in 1938, when the proportion was nine per cent., rising in 1939 to 17 per cent. Trams caused only three per cent. of the deaths, and motor cycles, pedal cycles and non-motor vehicles together caused about ten per cent. Motor goods vehicles, which included military transport vehicles, were concerned in an increasing proportion, rising from a third to nearly a half, whilst motor cars contributed a diminishing proportion, falling from a third to about a fifth.

Of pedal cyclist fatalities about a quarter occurred without collision with any other kind of vehicle, one-tenth were due to involvement with a motor bus, more than a third to involvement with a motor goods vehicle, and the rest to involvement with other vehicles.

Deaths of motor cyclists numbered 2,392 in 1940–41, 1,232 in 1942–43 and 905 in 1944–45. Of the total, 29 per cent. were due to non-collision accidents.

Analysis of the 5,990 deaths of occupants of other vehicles gives the following percentages in the three periods :—

		1940–41	1942–43	1944–45
Percentage of total—				
Motor bus	Not in collision	9	14	12
	In collision	2	2	1
Motor goods vehicle	Not in collision	25	34	32
	In collision	14	15	16
Motor car or coach	Not in collision	15	10	12
	In collision	27	13	16
Other motor vehicle on road		1	2	2
Tram or train in motor accident		1	2	2
Non-motor vehicle	In collision with motor ..	1	1	1
	In other accident	5	7	6
Total number of deaths		2,445	1,803	1,742

(86504) I

The increase in the proportions of motor goods vehicle and motor bus fatalities with a corresponding fall in proportion of motor car fatalities is evident here, as in the case of pedestrian deaths.

Tables CXXIV a and b, analyse the deaths from all road transport accidents in two periods 1940–42 and 1943–45 according to whether the deceased was a pedestrian, pedal cyclist, motor cyclist, occupant of a motor vehicle or occupant of a non-motor vehicle, whether he or she was a resident of Greater London, a county borough, urban or rural district, and what kinds of vehicles were involved. In the second period it was necessary to include a column for " other or unspecified persons " owing to incomplete information, but the numbers so classified were small. The deaths classified according to place of residence are necessarily of civilians only, and the national totals at the head of the table are also of civilians. The numbers of deaths of non-civilians in England and Wales are analysed in the final sections of the table.

Comparison is made below between the distributions of deaths of civilian and non-civilian males which occurred on the one hand when they were pedestrians and on the other when occupants of motor vehicles (including motor cyclists) not in collision with other vehicles, according to the kind of motor vehicle involved in the accident.

	1940–42			1943–45		
	No. of deaths		Per cent. of non-civilians	No. of deaths		Per cent. of non-civilians
	Civilian males	Non-civilian males		Civilian males	Non-civilian males	
Pedestrians by—						
Motor cycle	406	40	9·0	175	15	7·9
Motor goods vehicle.. ..	2,695	310	10·3	2,179	272	11·1
Motor bus	1,872	120	6·0	1,157	33	2·8
Motor car, coach	2,297	377	14·1	1,020	123	10·8
Other motor vehicle.. ..	114	20	14·9	80	23	22·3
Occupants in non-collision accidents—						
Motor cycle	486	357	42·3	229	200	46·6
Motor goods vehicle.. ..	480	406	45·8	419	376	47·3
Motor bus	198	14	6·6	172	7	3·9
Motor car, coach	237	99	29·5	137	78	36·3
Other motor vehicle.. ..	6	15	71·4	9	25	73·5

Table CXXIVa.—Deaths of Pedestrians, Pedal Cyclists, Motor Cyclists and Occupants of Vehicles in Road Transport Accidents, according to sex, class of area of residence and vehicle involved. 1940–42.

Area of residence and type of vehicle and accident	Pedestrians		Pedal cyclists		Motor cyclists		Occupants of road motor vehicles†		Occupants of non-motor vehicles‡		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
England and Wales (civilians)												
Motor vehicle, non-collision‖												
Motor cycle	406	193	—	—	486	47	—	—	—	—	892	240
Motor goods vehicle	2,695	1,331	—	—	—	—	480	43	—	—	3,175	1,374
Motor bus, trolley bus	1,872	638	—	—	—	—	198	138	—	—	2,070	776
Motor car, coach	2,297	847	—	—	—	—	237	128	—	—	2,534	975
Other road motor vehicle	114	40	—	—	—	—	6	1	—	—	120	41
*Collisions involving motor vehicle**												
With train	—	1	—	—	1	—	22	1	1	1	24	3
With tram	—	—	—	—	5	—	4	1	1	—	10	1
Motor cycle	§	§	94	9	108	5	—	—	1	1	203	15
Motor goods vehicle	§	§	911	225	575	31	261	29	17	3	1,764	288
Motor bus, trolley bus	§	§	273	52	137	12	45	26	2	—	457	90
Motor car, coach	§	§	647	154	418	30	472	211	6	1	1,543	396
Other road motor vehicle	§	§	22	2	3	—	5	2	14	3	44	7
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	—	—
Non-motor-vehicle(s) only												
Tram	272	83	2	1	—	—	—	—	52	17	326	101
Pedal cycle	245	129	637	128	—	—	—	—	—	—	882	257
Other non-motor vehicle	113	21	44	10	—	—	—	—	92	9	249	40
Total	**8,014**	**3,283**	**2,630**	**581**	**1,733**	**125**	**1,730**	**580**	**186**	**35**	**14,293**	**4,604**
Greater London residents												
Motor vehicle, non-collision‖												
Motor cycle	52	31	—	—	64	10	—	—	—	—	116	41
Motor goods vehicle	387	221	—	—	—	—	68	5	—	—	455	226
Motor bus, trolley bus	270	104	—	—	—	—	26	17	—	—	296	121
Motor car, coach	313	133	—	—	—	—	41	21	—	—	354	154
Other road motor vehicle	22	13	—	—	—	—	1	—	—	—	23	13
*Collisions involving motor vehicle**												
With train	—	—	—	—	—	—	2	—	—	—	2	—
With tram	—	—	—	—	2	—	1	—	—	—	3	—
Motor cycle	§	§	13	2	11	—	—	—	—	—	24	2
Motor goods vehicle	§	§	146	25	93	5	56	10	—	—	295	40
Motor bus, trolley bus	§	§	54	8	14	2	3	—	—	—	71	10
Motor car, coach	§	§	79	14	57	3	65	40	—	—	201	57
Other road motor vehicle	§	§	1	—	1	—	—	—	1	—	3	—
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	—	—
Non-motor vehicle(s) only												
Tram	40	10	—	—	—	—	—	—	4	5	44	15
Pedal cycle	35	26	54	9	—	—	—	—	—	—	89	35
Other non-motor vehicle	16	5	5	3	—	—	—	—	8	1	29	9
Total	**1,135**	**543**	**352**	**61**	**242**	**20**	**263**	**93**	**13**	**6**	**2,005**	**723**
County borough residents¶												
Motor vehicle, non-collision‖												
Motor cycle	116	50	—	—	115	15	—	—	—	—	231	65
Motor goods vehicle	898	417	—	—	—	—	140	12	—	—	1,038	429
Motor bus, trolley bus	846	276	—	—	—	—	71	42	—	—	917	318
Motor car, coach	717	292	—	—	—	—	65	32	—	—	782	324
Other road motor vehicle	37	13	—	—	—	—	2	—	—	—	39	13
*Collisions involving motor vehicle**												
With train	—	1	—	—	—	—	3	—	1	—	4	1
With tram	—	—	—	—	2	—	3	1	1	—	6	1
Motor cycle	§	§	12	1	17	2	—	—	—	—	29	3
Motor goods vehicle	§	§	208	53	120	6	76	4	7	1	411	64
Motor bus, trolley bus	§	§	111	23	38	2	15	5	—	—	164	30
Motor car, coach	§	§	128	22	106	9	120	44	1	—	355	75
Other road motor vehicle	§	§	4	—	1	—	3	—	5	—	13	—
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	—	—
Non-motor vehicle(s) only												
Tram	208	64	2	1	—	—	—	—	43	9	253	74
Pedal cycle	90	44	119	16	—	—	—	—	—	—	209	60
Other non-motor vehicle	37	7	6	—	—	—	—	—	21	—	64	7
Total	**2,949**	**1,164**	**590**	**116**	**399**	**34**	**498**	**140**	**79**	**10**	**4,515**	**1,464**

Table CXXIVa—(*contd.*)

Area of residence and type of vehicle and accident	Pedestrians		Pedal cyclists		Motor cyclists		Occupants of road motor vehicles†		Occupants of non-motor vehicles‡		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Urban district residents ¶												
Motor vehicle, non-collision ‖												
Motor cycle	131	59	—	—	148	9	—	—	—	—	279	68
Motor goods vehicle	797	417	—	—	—	—	149	18	—	—	946	435
Motor bus, trolley bus	566	186	—	—	—	—	69	48	—	—	635	234
Motor car, coach	686	282	—	—	—	—	70	38	—	—	756	320
Other road motor vehicle	29	7	—	—	—	—	2	1	—	—	31	8
*Collisions involving motor vehicle**												
With train	—	—	—	—	—	—	12	1	—	1	12	2
With tram	—	—	—	—	1	—	—	—	—	—	1	—
Motor cycle	§	§	33	3	43	3	—	—	—	—	76	6
Motor goods vehicle	§	§	271	62	153	10	76	7	9	2	509	81
Motor bus, trolley bus	§	§	69	14	44	2	22	12	2	—	137	28
Motor car, coach	§	§	178	49	136	11	148	57	2	1	464	118
Other road motor vehicle	§	§	5	1	1	—	—	1	6	3	12	5
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	—	—
Non-motor vehicle(s) only												
Tram	22	9	—	—	—	—	—	—	4	3	26	12
Pedal cycle	75	42	186	42	—	—	—	—	—	—	261	84
Other non-motor vehicle	23	6	11	2	—	—	—	—	26	2	60	10
Total	**2,329**	**1,008**	**753**	**173**	**526**	**35**	**548**	**183**	**49**	**12**	**4,205**	**1,411**
Rural district residents ¶												
Motor vehicle, non-collision ‖												
Motor cycle	107	53	—	—	159	13	—	—	—	—	266	66
Motor goods vehicle	613	276	—	—	—	—	123	8	—	—	736	284
Motor bus, trolley bus	190	72	—	—	—	—	32	31	—	—	222	103
Motor car, coach	581	140	—	—	—	—	61	37	—	—	642	177
Other road motor vehicle	26	7	—	—	—	—	1	—	—	—	27	7
*Collisions involving motor vehicle**												
With train	—	—	—	—	1	—	5	—	—	—	6	—
With tram	—	—	—	—	—	—	—	—	—	—	—	—
Motor cycle	§	§	36	3	37	—	—	—	1	1	74	4
Motor goods vehicle	§	§	286	85	209	10	53	8	1	—	549	103
Motor bus, trolley bus	§	§	39	7	41	6	5	9	—	—	85	22
Motor car, coach	§	§	262	69	119	7	139	70	3	—	523	146
Other road motor vehicle	§	§	12	1	—	—	2	1	2	—	16	2
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	—	—
Non-motor vehicle(s) only												
Tram	2	—	—	—	—	—	—	—	1	—	3	—
Pedal cycle	45	17	278	61	—	—	—	—	—	—	323	78
Other non-motor vehicle	37	3	22	5	—	—	—	—	37	6	96	14
Total	**1,601**	**563**	**935**	**231**	**566**	**36**	**421**	**164**	**45**	**7**	**3,568**	**1,006**
England and Wales (non-civilians)												
Motor vehicle, non-collision ‖												
Motor cycle	40	—	—	—	357	1	—	—	—	—	397	1
Motor goods vehicle	310	5	—	—	—	—	406	5	—	—	716	10
Motor bus, trolley bus	120	3	—	—	—	—	14	3	—	—	134	6
Motor car, coach	377	6	—	—	—	—	99	2	—	—	476	8
Other road motor vehicle	20	1	—	—	—	—	15	—	—	—	35	1
*Collisions involving motor vehicle**												
With train	—	—	—	—	—	—	5	—	3	—	8	—
With tram	—	—	—	—	1	—	2	—	—	—	3	—
Motor cycle	§	§	8	—	72	—	—	—	—	—	80	—
Motor goods vehicle	§	§	35	—	588	—	193	5	—	—	816	5
Motor bus, trolley bus	§	§	12	—	67	—	7	—	—	—	86	—
Motor car, coach	§	§	50	3	231	1	112	5	—	—	393	9
Other road motor vehicle	§	§	1	—	7	—	4	—	—	—	12	—
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	—	—
Non-motor vehicle(s) only												
Tram	9	—	—	—	—	—	—	—	5	—	14	—
Pedal cycle	10	—	52	—	—	—	—	—	—	—	62	—
Other non-motor vehicle	7	—	7	—	—	—	—	—	—	—	14	—
Total	**893**	**15**	**165**	**3**	**1,323**	**2**	**857**	**20**	**8**	**—**	**3,248**	**40**

* No death is entered in more than one of these categories. Collisions of any motor vehicle with a train or tram are entered in the first two categories; collisions with other type of non-motor vehicle are in the last five categories; deaths of pedal cyclists and motor cyclists in collision with more than one other motor vehicle appear against the vehicle at fault in the collision.

† Except motor cyclists.

‡ Except pedal cyclists.

§ Included above under "non-collision."

‖ Includes a few deaths of pedestrians resulting from collisions.

¶ Outside Greater London.

See definitions under Table CXXIII.

Table CXXIVb.—Deaths of Pedestrians, Pedal Cyclists, Motor Cyclists and Occupants of Vehicles in Road Transport Accidents, according to sex, class of area of residence and vehicle involved. 1943–45.

Area of residence and type of vehicle and accident	Pedestrians		Pedal cyclists		Motor cyclists		Occupants of road motor vehicles†		Occupants of non-motor vehicles‡		Other or unspecified persons		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
England and Wales (civilians)														
Motor vehicle, non-collision‖														
Motor cycle	175	116	—	—	229	10	—	—	—	—	—	—	404	126
Motor goods vehicle	2,179	1,211	—	—	—	—	419	35	—	—	—	—	2,598	1,246
Motor bus, trolley bus	1,157	532	—	—	—	—	172	145	—	—	—	—	1,329	677
Motor car, coach	1,020	519	—	—	—	—	137	61	—	—	—	—	1,157	580
Other road motor vehicle	80	38	—	—	—	—	9	11	—	—	—	—	89	49
*Collisions involving motor vehicle**														
With train	—	—	—	—	1	—	36	6	1	—	1	—	39	6
With tram	—	—	—	—	1	—	4	2	1	—	—	—	6	2
Motor cycle	§	§	52	6	38	1	—	—	—	—	—	—	90	7
Motor goods vehicle	§	§	726	219	263	19	186	21	12	2	—	—	1,187	261
Motor bus, trolley bus	§	§	209	46	52	7	25	11	1	—	—	—	287	64
Motor car, coach	§	§	346	96	118	7	224	83	7	1	—	—	695	187
Other road motor vehicle	§	§	28	8	7	—	5	2	3	1	—	—	43	11
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	26	1	26	1
Non-motor vehicle(s) only														
Tram	144	77	3	1	—	—	—	—	37	29	—	—	184	107
Pedal cycle	153	94	522	134	—	—	—	—	—	—	—	—	675	228
Other non-motor vehicle	108	31	43	22	—	—	—	—	94	9	—	—	245	62
Total	**5,016**	**2,618**	**1,929**	**532**	**709**	**44**	**1,217**	**377**	**156**	**42**	**27**	**1**	**9,054**	**3,614**
Greater London residents														
Motor vehicle, non-collision‖														
Motor cycle	25	33	—	—	17	1	—	—	—	—	—	—	42	34
Motor goods vehicle	350	248	—	—	—	—	60	6	—	—	—	—	410	254
Motor bus, trolley bus	191	127	—	—	—	—	21	27	—	—	—	—	212	154
Motor car, coach	178	134	—	—	—	—	16	11	—	—	—	—	194	145
Other road motor vehicle	13	9	—	—	—	—	1	2	—	—	—	—	14	11
*Collisions involving motor vehicle**														
With train	—	—	—	—	—	—	2	1	—	—	—	—	2	1
With tram	—	—	—	—	1	—	—	—	—	—	—	—	1	—
Motor cycle	§	§	1	—	2	—	—	—	—	—	—	—	3	—
Motor goods vehicle	§	§	124	33	33	5	33	2	2	—	—	—	192	40
Motor bus, trolley bus	§	§	34	9	5	3	2	2	—	—	—	—	41	14
Motor car, coach	§	§	55	13	12	3	39	13	1	—	—	—	107	29
Other road motor vehicle	§	§	3	1	—	—	—	—	—	—	—	—	3	1
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	5	—	5	—
Non-motor vehicle(s) only														
Tram	14	18	—	—	—	—	—	—	4	7	—	—	18	25
Pedal cycle	23	20	57	14	—	—	—	—	—	—	—	—	80	34
Other non-motor vehicle	16	10	3	3	—	—	—	—	16	3	—	—	35	16
Total	**810**	**599**	**277**	**73**	**70**	**12**	**174**	**64**	**23**	**10**	**5**	**—**	**1,359**	**758**
County borough residents¶														
Motor vehicle, non-collision‖														
Motor cycle	46	20	—	—	47	5	—	—	—	—	—	—	93	25
Motor goods vehicle	707	339	—	—	—	—	124	4	—	—	—	—	831	343
Motor bus, trolley bus	511	199	—	—	—	—	63	31	—	—	—	—	574	230
Motor car, coach	339	139	—	—	—	—	36	14	—	—	—	—	375	153
Other road motor vehicle	29	13	—	—	—	—	1	3	—	—	—	—	30	16
*Collisions involving motor vehicle**														
With train	—	—	—	—	—	—	10	—	1	—	1	—	12	—
With tram	—	—	—	—	—	—	2	—	—	—	—	—	2	—
Motor cycle	§	§	11	1	4	—	—	—	—	—	—	—	15	1
Motor goods vehicle	§	§	162	41	38	3	59	7	3	—	—	—	262	51
Motor bus, trolley bus	§	§	95	13	12	3	8	5	1	—	—	—	116	21
Motor car, coach	§	§	67	13	27	—	48	13	1	—	—	—	143	26
Other road motor vehicle	§	§	4	1	—	—	—	—	2	—	—	—	6	1
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	8	1	8	1
Non-motor vehicle(s) only														
Tram	111	50	3	1	—	—	—	—	30	18	—	—	144	69
Pedal cycle	37	27	85	29	—	—	—	—	—	—	—	—	122	56
Other non-motor vehicle	37	8	9	2	—	—	—	—	26	2	—	—	72	12
Total	**1,817**	**795**	**436**	**101**	**128**	**11**	**351**	**77**	**64**	**20**	**9**	**1**	**2,805**	**1,005**

Table CXXIVb—(*contd.*)

Area of residence and type of vehicle and accident	Pedestrians		Pedal cyclists		Motor cyclists		Occupants of road motor vehicles†		Occupants of non-motor vehicles‡		Other or unspecified persons		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Urban district residents¶														
Motor vehicle, non-collision‖														
Motor cycle	67	38	—	—	72	2	—	—	—	—	—	—	139	40
Motor goods vehicle	615	377	—	—	—	—	126	8	—	—	—	—	741	385
Motor bus, trolley bus	324	150	—	—	—	—	49	61	—	—	—	—	373	211
Motor car, coach	286	134	—	—	—	—	42	22	—	—	—	—	328	156
Other road motor vehicles	19	9	—	—	—	—	4	3	—	—	—	—	**23**	12
*Collisions involving motor vehicle**														
With train	—	—	—	—	—	—	13	4	—	—	—	—	13	4
With tram	—	—	—	—	—	—	1	2	1	—	—	—	2	2
Motor cycle	§	§	15	2	13	—	—	—	—	—	—	—	28	2
Motor goods vehicle	§	§	222	63	71	4	54	5	3	1	—	—	350	73
Motor bus, trolley bus	§	§	54	10	27	1	6	—	—	—	—	—	87	11
Motor car, coach	§	§	101	37	37	2	63	29	1	1	—	—	202	69
Other road motor vehicle	§	§	7	4	3	—	2	2	1	1	—	—	13	7
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	6	—	6	—
Non-motor vehicle(s) only														
Tram	17	8	—	—	—	—	—	—	3	2	—	—	20	10
Pedal cycle	58	29	174	43	—	—	—	—	—	—	—	—	232	72
Other non-motor vehicle	22	6	14	10	—	—	—	—	18	3	—	—	54	19
Total	**1,408**	**751**	**587**	**169**	**223**	**9**	**360**	**136**	**27**	**8**	**6**	—	**2,611**	**1,073**
Rural district residents¶														
Motor-vehicle, non-collision‖														
Motor cycle	37	25	—	—	93	2	—	—	—	—	—	—	130	27
Motor goods vehicle	507	247	—	—	—	—	109	17	—	—	—	—	616	264
Motor bus, trolley bus	131	56	—	—	—	—	39	26	—	—	—	—	170	82
Motor car, coach	217	112	—	—	—	—	43	14	—	—	—	—	260	126
Other road motor vehicle	19	7	—	—	—	—	3	3	—	—	—	—	22	10
*Collisions involving motor vehicle**														
With train	—	—	—	—	1	—	11	1	—	—	—	—	12	1
With tram	—	—	—	—	—	—	1	—	—	—	—	—	1	—
Motor cycle	§	§	25	3	19	1	—	—	—	—	—	—	44	4
Motor goods vehicle	§	§	218	82	121	7	40	7	4	1	—	—	383	97
Motor bus, trolley bus	§	§	26	14	8	—	9	4	—	—	—	—	43	18
Motor car, coach	§	§	123	33	42	2	74	28	4	—	—	—	243	63
Other road motor vehicle	§	§	14	2	4	—	3	—	—	—	—	—	21	2
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	7	—	7	—
Non-motor vehicle(s) only														
Tram	2	1	—	—	—	—	—	—	—	2	—	—	2	3
Pedal cycle	35	18	206	48	—	—	—	—	—	—	—	—	241	66
Other non-motor vehicle	33	7	17	7	—	—	—	—	34	1	—	—	84	15
Total	**981**	**473**	**629**	**189**	**288**	**12**	**332**	**100**	**42**	**4**	**7**	—	**2,279**	**778**
England and Wales (non-civilians)														
Motor vehicle, non-collision‖														
Motor cycle	15	—	—	—	200	2	—	—	—	—	—	—	215	2
Motor goods vehicle	272	11	—	—	—	—	376	16	—	—	—	—	648	27
Motor bus, trolley bus	33	6	—	—	—	—	7	1	—	—	—	—	40	7
Motor car, coach	123	6	—	—	—	—	78	6	—	—	—	—	201	12
Other road motor vehicle	23	1	—	—	—	—	25	2	—	—	—	—	48	3
*Collisions involving motor vehicle**														
With train	—	—	—	—	—	—	15	—	—	—	—	—	15	—
With tram	—	—	—	—	1	—	1	—	—	—	—	—	2	—
Motor cycle	§	§	2	—	21	—	—	—	—	—	—	—	23	—
Motor goods vehicle	§	§	65	17	291	4	186	6	2	—	—	—	544	27
Motor bus, trolley bus	§	§	12	1	25	—	—	—	—	—	—	—	37	1
Motor car, coach	§	§	36	7	48	—	47	7	—	—	—	—	131	14
Other road motor vehicle	§	§	9	—	1	—	4	—	—	—	—	—	14	—
Ill-defined motor vehicle accident	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Non-motor vehicle(s) only														
Tram	10	—	—	—	—	—	—	—	1	—	—	—	11	—
Pedal cycle	6	1	96	5	—	—	—	—	—	—	—	—	102	6
Other non-motor vehicles	8	—	7	1	—	—	—	—	2	—	—	—	17	1
Total	**490**	**25**	**227**	**31**	**587**	**6**	**739**	**38**	**5**	—	—	—	**2,048**	**100**

* No death is entered in more than one of these categories. Collisions of any motor vehicle with a train or tram are entered in the first two categories; collisions with other type of non-motor vehicle are in the last five categories; deaths of pedal cyclists and motor cyclists in collision with more than one other motor vehicle appear against the vehicle at fault in the collision.

† Except motor cyclists.

‡ Except pedal cyclists.

§ Included above under "non-collision."

‖ Includes a few deaths of pedestrians resulting from collisions.

¶ Outside Greater London.

See definitions under Table CXXIII.

Although non-civilians did not exceed one-fifth of the male population within the country at any time, they contributed about 45 per cent. of the deaths of motor cyclists and occupants of motor goods vehicles and 32 per cent. of the deaths of occupants of motor cars. In contrast with these proportions non-civilians contributed less than five per cent. to pedestrian fatalities by motor buses and 11½ per cent. to pedestrian fatalities by other types of motor vehicle.

In the Review for 1938–39, Table LXXXVII gave for those years an analysis comparable in many respects with Table CXXIV for 1940–45, and revealed that the total death-rate from road accidents was in each year greatest amongst residents of rural districts and least amongst Greater London residents. In order to convert the deaths in Table CXXIV into death-rates per million, the following estimates of resident civilian population of both sexes can be used, but it is not possible to give reliable figures for each sex, except for England and Wales as a whole. Furthermore, only a small part of the population is at risk of meeting death as a motor cyclist and the proportions are very different in rural and urban districts, so comparisons of such death-rates have little meaning. Everyone, however, with few exceptions, is exposed to risk of death as a pedestrian, and also as occupant of some kind of vehicle, so these two rates can be compared with justification, in each type of area in the years 1938, 1939, 1940–42 and 1943–45.

	Greater London	County boroughs	Urban districts	Rural districts	England and Wales
Total civilian population (3 years)—					
1940–42	20,126	35,096	38,498	23,155	116,875
1943–45	19,937	34,386	37,091	22,346	113,760
Death-rates per million					
As pedestrian in					
1938	64	71	68	73	69
1939	98	116	89	95	100
1940–42	83	117	87	94	97
1943–45	71	76	58	65	67
As occupant of vehicle (or rider of cycle) in					
1938	60	60	72	126	75
1939	62	60	72	125	75
1940–42	52	53	59	104	65
1943–45	36	35	41	72	44

In 1939 large increases in the death-rate from road vehicle accidents to civilian pedestrians occurred in all types of area, particularly in the large towns, this being due mainly to the abolition of street lighting in the last four months of the year. Since this and other effects of war preparations were concentrated chiefly in the latter part of the year, it is curious that the average rates throughout 1940–42 were almost the same as in 1939, except in Greater London where the rate was appreciably lower. In 1943–45, as people became more accustomed to the blackout and with reduction in private motoring, the rates fell back to about the levels of 1938.

No such increase occurred in 1939 in the civilian death-rates from accidental death whilst travelling on road vehicles, and in 1940–42 these rates fell considerably. In 1943–45 there were further large decreases in each type of area, the national rate being only 59 per cent. of that in 1938. The large rural excess in these rates is due in part to motor cyclists, but it still appears in the residual " occupant " rates excluding motor cyclists, which were as follows in the four types of area : In 1938, 38, 41, 46, 79 ; in 1939, 43, 41, 48, 80 ; in 1940–42, 39, 41, 45, 78 ; in 1943–45, 31, 31, 35, 58.

Table CXXV.— Air Transport Accidents : Deaths by Sex and Age, excluding non-Civilians after 3rd September, 1939 for Males, and after 1st June, 1941 for females. 1931 to 1945.

	Males						Females						Persons, all ages.
	0–	15–	25–	35–	45–	55 and over	0–	15–	25–	35–	45–	55 and over	
1931	—	37	25	6	1	1	—	1	—	3	—	—	74
1932	1	19	18	2	—	—	—	—	1	2	—	—	43
1933	2	19	23	3	—	—	—	—	2	—	—	—	49
1934	—	20	33	6	1	2	—	1	2	—	1	1	67
1935	—	27	21	7	—	1	—	2	3	—	—	—	61
1936	—	36	35	16	4	1	—	2	3	2	—	—	99
1937	1	99	46	18	4	3	—	1	2	1	—	—	175
1938	4	98	66	12	4	3	—	3	2	2	—	—	194
1939	—	102	69	18	—	1	2	1	1	2	—	1	197
1940	—	5	9	9	4	—	1	1	1	1	—	—	31
1941	—	1	1	3	1	—	—	—	—	—	—	1	7
1942	—	2	4	—	—	1	—	—	—	—	—	—	7
1943	—	8	18	4	—	—	—	4	1	1	—	—	36
1944	—	8	13	8	2	—	—	3	3	2	—	—	39
1945	—	7	10	2	3	1	—	—	1	—	—	—	24

173. **Deaths caused by Air Transport.**—The record of accidental deaths caused by air transport is continued in Table CXXV, but during the war this is confined to deaths of civilians not due to operations of war, and the numbers were small owing to suspension of the ordinary air transport services. Deaths of non-civilians caused by aeroplanes during 1940–45 were included without distinction in No. 196, Operations of War, no matter what the circumstances were.

Fatal Accidents in Houses.—Although the information obtained at registration of deaths includes the place where the death occurred, there is no obligation to record the place of occurrence of an accident which caused the death. Coroners' certificates provide this information in some cases but not in all, and it is not possible, therefore, to obtain precise statistics of the numbers of deaths which occurred in houses or places of residence. This defect in the statistics of accidents is to be remedied in 1948, but in the meantime it is necessary to estimate these deaths as nearly as the records allow. The extent of the deficiency in statement of place of accident, as revealed by a study of a sample of certificates in 1945, has been discussed on page 84.

Certain causes of accidental death occur almost always inside buildings (*e.g.*, coal gas poisoning, burns by clothing) and the great bulk of them occur either in places of residence or in places of work. By deducting all those which are indicated as being occupational (except domestic work), the remainder may be regarded as " home " accidents without serious overstatement. The types of accident which may be dealt with in this way are shown in Table CXXVI, where the deaths from non-occupational accidents are analysed by sex and age for the triennial periods 1940–42 and 1943–45. In years prior to 1940 no separation of occupational accidents was attempted, but for children under 15 and old people over 75 the numbers of such fatalities are negligible. For women of all ages in the period 1931–37 occupational accidents can only have contributed small numbers to the total fatalities from the causes in the table, all forms of domestic work, whether paid or not, being excluded from the occupational category and included amongst home accidents. Where figures have been ascertainable for the two triennial periods 1931–33 and 1935–37 these may be regarded as comparable with those of 1940–42 and 1943–45 for males at ages under 15 and over 75, and roughly comparable for females of any age.

Accidental deaths from coal gas and carbon monoxide poisoning amongst females of all ages increased from 84 annually in 1931–33 and 95 in 1935–37 to 136 annually in 1940–42 and 158 in 1943–45 ; and a similar increase occurred amongst boys under 15 and men over 75. Whereas in the three years 1931–33 fatalities amongst children totalled 19, there were 69 in 1940–42 and 56 in 1943–45 ; and amongst women over 65 the total increased from 116 to 285. Probable causes of this great increase were leakages of gas resulting from pipes fractured by bomb explosions and deterioration of gas fittings.

Fatalities from acute poisoning by solid and liquid substances (No. 179) increased during the war amongst children aged 1–5 but not at other ages. Deaths of women aged 15–65 from this cause numbered 40 annually in 1940–45 compared with 48 in the pre-war periods.

Conflagration deaths (No. 180) totalled 401 in 1940–42 and 341 in 1943–45, fatalities amongst children increasing from about 50 in each period 1931–33 and 1935–37 to 143 in 1940–42 and 139 in 1943–45. Deaths of women over 15 numbered in the successive periods 56, 80, 135, 114.

Deaths of females from all accidental burns not due to conflagration (No. 181) in the four periods 1931–33, 1935–37, 1940–42, 1943–45 (excluding occupational deaths in 1940–45) numbered 2,331, 2,454, 2,453 and 1,855. Deaths of all children under five in the four periods numbered 1,570, 1,394, 1,302 and 927. The great improvement in 1943–45 was due in all probability to improved efficacy of treatment rather than to diminution in the frequency of burns. Three groups of burns are included in the table as occurring for the most part in places of residence rather than elsewhere. When the two war periods are compared for these groups, the percentage decreases in 1943–45 were :— for burns by clothing becoming ignited 17 per cent., for burns by falling into the fire 37 per cent., and for scalds 35 per cent.

Table CXXVI.—Deaths from Accidents, not known to be occupational, which by their description occurred most probably in Places of Residence, according to Sex and Age (excluding non-civilians). 1940–42 and 1943–45. Also for some causes in 1931–33 and 1935–37.

List No. (1940)	Cause of death (type of accident)	Sex	3-Year period	0–	1–	5–	15–	45–	65–	75 and over	All ages
178 pt.	Coal gas and carbon monoxide poisoning.	M.	1931–33	3	3	5	?	?	?	32	?
			1935–37	4	6	11	?	?	?	50	?
			1940–42	4	11	18	130	118	82	72	435
			1943–45	3	10	16	83	109	81	90	392
		F.	1931–33	—	5	3	60	67	52	64	251
			1935–37	1	4	8	64	73	61	74	285
			1940–42	6	11	19	74	78	81	138	407
			1943–45	3	12	12	74	89	104	181	475
179	Acute poisoning not by gas.	M.	1931–33	5	22	4	?	?	?	12	?
			1935–37	—	19	4	?	?	?	10	?
			1940–42	4	32	6	57	64	25	9	197
			1943–45	5	32	4	61	54	23	10	189
		F.	1931–33	2	16	4	76	70	22	12	202
			1935–37	3	18	3	70	75	17	14	200
			1940–42	2	28	6	58	62	24	14	194
			1943–45	4	22	4	66	54	17	12	179
180	Conflagration ..	M.	1931–33	4	13	6	?	?	?	14	?
			1935–37	2	7	13	?	?	?	14	?
			1940–42	13	39	31	35	38	29	21	206
			1943–45	19	41	25	24	26	23	15	173
		F.	1931–33	6	13	10	15	13	9	19	85
			1935–37	6	9	12	22	20	13	25	107
			1940–42	8	27	25	43	36	32	24	195
			1943–45	13	22	19	36	35	22	21	168
181 pt.	*Burns by clothing (any means).	M.	1940–42	11	55	45	31	27	38	48	255
			1943–45	5	50	46	15	25	35	54	230
		F.	1940–42	9	143	205	166	170	167	277	1,137
			1943–45	5	125	176	80	143	140	254	923
181 pt.	*Burns by falling into fire.	M.	1940–42	8	8	3	6	18	51	48	142
			1943–45	6	6	1	1	6	23	47	90
		F.	1940–42	11	15	3	18	34	50	71	202
			1943–45	6	8	2	10	19	26	56	127
181 pt.	*Scalds	M.	1940–42	64	458	30	22	17	17	14	622
			1943–45	37	292	17	9	7	7	15	384
		F.	1940–42	47	269	23	25	27	30	46	467
			1943–45	30	196	8	8	19	24	36	321
182 pt.	*Mechanical suffocation in bed, cot, cradle.	M.	1940–42	589	16	—	4	3	1	—	613
			1943–45	692	13	—	1	1	—	1	708
		F.	1940–42	429	11	—	1	3	—	1	445
			1943–45	426	11	—	4	2	—	1	444

* Comparable figures for the pre-war years are not available for these causes.

Table CXXVI—(*contd.*)

List No. (1940)	Cause of death (type of accident)	Sex	3-Year period	0–	1–	5–	15–	45–	65–	75 and over	All ages
182 pt.	*Mechanical suffocation by food or rubber teat.	M.	1940–42	254	27	6	36	36	19	15	393
			1943–45	271	22	7	25	38	17	7	387
		F.	1940–42	165	21	1	28	23	17	13	268
			1943–45	224	18	4	16	26	10	10	308
195 pt.	Swallowing foreign body.	M.	1931–33	12	17	15	?	?	?	2	?
			1935–37	5	29	14	?	?	?	6	?
			1940–42	5	8	11	21	31	15	5	96
			1943–45	7	9	7	14	31	13	3	84
		F.	1931–33	5	13	4	18	29	4	2	75
			1935–37	6	17	7	26	24	16	3	99
			1940–42	4	7	6	19	28	6	9	79
			1943–45	8	10	8	9	27	15	—	77
185	Injury by cutting and piercing instruments.	M.	1931–33	1	1	3	?	?	?	1	?
			1935–37	1	3	4	?	?	?	2	?
			1940–42	—	2	5	10	2	2	2	23
			1943–45	—	1	4	8	7	2	1	23
		F.	1931–33	2	2	—	8	2	—	1	15
			1935–37	—	—	3	2	4	2	1	12
			1940–42	—	—	2	3	—	—	—	5
			1943–45	1	1	1	5	1	—	—	9
186 pt.	*Fall downstairs ..	M.	1940–42	4	19	10	117	388	366	452	1,356
			1943–45	4	23	5	63	235	271	352	953
		F.	1940–42	8	10	9	83	400	573	926	2,009
			1943–45	1	13	8	50	216	353	725	1,366
186 pt.	*Other fall indoors, or from bed or pram.	M.	1940–42	17	23	5	31	130	319	713	1,238
			1943–45	21	30	8	27	83	231	679	1,079
		F.	1940–42	7	16	7	30	242	671	2196	3,169
			1943–45	8	21	7	26	208	556	2195	3,021
186 pt.	*Fall from ladder ..	M.	1940–42	—	2	2	39	76	56	26	201
			1943–45	—	1	1	32	69	48	39	190
		F.	1940–42	—	1	—	3	10	13	6	33
			1943–45	—	—	—	2	8	6	8	24
186 pt.	*Fall from window ..	M.	1940–42	—	17	4	29	61	32	40	183
			1943–45	—	14	6	38	27	27	43	155
		F.	1940–42	1	11	6	19	51	38	35	161
			1943–45	1	21	3	20	40	26	37	148
193 pt.	Electric currents ..	M.	1931–33	—	2	11	?	?	?	—	?
			1935–37	—	1	11	?	?	?	—	?
			1940–42	2	9	27	69	14	1	—	122
			1943–45	2	10	27	46	10	1	3	99
		F.	1931–33	—	—	2	10	3	—	—	15
			1935–37	—	1	—	23	4	—	—	28
			1940–42	—	3	2	21	9	—	1	36
			1943–45	—	5	7	26	10	4	—	52

* Comparable figures for the pre-war years are not available for these causes.

Deaths by accidental mechanical suffocation from all causes (No. 182) increased amongst infants under one year of age from an annual average of about 350 before the war to 496 in 1940–42 and 576 in 1943–45. The last two numbers included 140 and 165 annual deaths attributed to suffocation by food or rubber teat, 339 and 373 from suffocation in bed, cot or cradle, and 17 and 38 from other kinds of mechanical suffocation (not shown in the table). The average number of live births was 605 thousands in 1935–37, 607 in 1940–42 and 705 in 1943–45, so the infant mortality rate from these causes increased considerably at the beginning of the war and remained at the new high level. Fatalities by mechanical suffocation were also more numerous throughout the war amongst children aged 1–5, the totals in 1931–33, 1935–37, 1940–42 and 1943–45 being 54, 63, 86, 76.

Accidental deaths by swallowing of foreign bodies totalled 175 in 1940–42 and 161 in 1943–45, and no increase in their frequency was evident. Deaths from injuries by cutting and piercing instruments numbered only 28 and 32 in the two periods after eliminating the occupational fatalities (which probably accounted for the larger numbers amongst women aged 15–65 in the pre-war periods).

Civilian fatalities by falls downstairs averaged 1,122 annually during 1940–42, but the frequency decreased to 773 annually in 1943–45. The high figure during the first half of the war is explicable by air-raid alarms and bad lighting on staircases imposed by " blackout " restrictions, which in later years was gradually overcome by better window covering. Fatal falls said to have occurred indoors (or from a bed or perambulator) but without any mention of stairs, averaged 1,469 annually in 1940–42 and 1,367 in 1943–45, most of the decrease occurring at ages 45–75. Falls from ladders and windows caused an annual average of 193 deaths in 1940–42 and 172 in 1943–45.

Fatalities due to electric currents amongst children averaged five annually before the war, but in the six war years there were 94 in all.

Table CXXVII gives the non-occupational deaths from three ill-defined groups of causes which must have contained large numbers of fatalities occurring in places of residence, but where it is impossible to estimate what proportions did so occur. Deaths from burns of unstated causation totalled 880 in 1940–42 and 561 in 1943–45, the improvement in the latter period having been commented upon above. Fractures of the leg of unstated causation at ages 65 and over accounted for 1,069 deaths in 1940–42 and 779 in 1943–45. These are classified to No. 186, but many of them must have occurred away from houses. Injuries by fall or crushing of unstated circumstances were the cause of 4,953 deaths in 1940–42 and 2,881 in 1943–45, including 2,801 and 2,005 respectively at ages 65 and over. It is safe to estimate that of all the deaths in Table CXXVII, not less than one-half occurred in home premises. This would imply annual averages of 1,151 in 1940–42 and 703 in 1943–45 ; but the true figures might well have been 1,500 and 1,000. It is hoped that the large numbers of deaths in these unsatisfactory groups will be greatly reduced from 1948 onwards by the provision of supplementary information concerning accidental deaths, to be used for statistical purposes only.

There are some groups of fatalities not included in either table which must contain small proportions of deaths which occurred in places of residence, but it may be assumed that their omission is roughly balanced by the overstatement resulting from the assumption that all deaths in Table CXXVI were home

accidents. Adding the totals in that table to half the totals in Table CXXVII, the following minimal estimates of all home accident fatalities are obtained :—

	Annual average in 1940–42			Annual average in 1943–45		
	Children under 15	Males 15 and over	Females 15 and over	Children under 15	Males 15 and over	Females 15 and over
Deaths in CXXVI	1,163	1,393	2,408	1,091	1,112	2,056
Half of deaths in CXXVII.	81	530	540	50	268	385
Total ..	1,244	1,923	2,948	1,141	1,380	2,441

Table CXXVII.—Deaths from Accidents, not known to be occupational, of which substantial but unknown numbers must have occurred in Houses.* 1940–42 and 1943–45.

Int. List No.	Cause of death (type of accident)	Sex	3 year period	0–	1–	5–	15–	45–	65–	75 and over	All ages
181 pt.	Burns from unstated cause.	M.	1940–42	24	47	22	53	46	50	76	318
			1943–45	15	34	29	23	14	36	44	195
		F.	1940–42	15	69	68	67	93	103	147	562
			1943–45	7	45	48	27	57	67	115	366
186 pt.	Fracture of leg of unstated cause at ages 65 and over.	M.	1940–42	—	—	—	—	—	59	194	253
			1943–45	—	—	—	—	—	32	159	191
		F.	1940–42	—	—	—	—	—	168	648	816
			1943–45	—	—	—	—	—	106	482	588
186 pt.	Injury by fall, crushing, etc., of unstated cause.	M.	1940–42	11	48	114	808	825	451	616	2,873
			1943–45	9	14	62	245	334	272	447	1,383
		F.	1940–42	9	23	34	41	239	443	1,291	2,080
			1943–45	2	17	20	38	135	294	992	1,498

* For these causes, the information about the cause of death given on the certificate was insufficient to indicate whether the accident occurred in a house or not.

The estimated minimal total of home accident fatalities exceeded 6,000 annually in 1940–42 and was nearly 5,000 annually in 1943–45.

183. **Accidental Drowning.**—Deaths by accidental drowning in the five years 1935–39 averaged 1,007 annually of males and 266 of females. Civilian deaths in the years 1940–45 numbered, for males, 1,242, 1,290, 978, 965, 975, 1,030,

and for females 267, 239, 212, 227, 205, 235. The numbers of children who lost their lives by drowning in the war years at various ages were as follows :—

		1939	1940	1941	1942	1943	1944	1945
Boys	0– ..	9	6	5	4	10	4	4
	1– ..	91	105	124	147	128	150	156
	5– ..	136	134	194	180	174	169	189
	10–15 ..	73	64	131	85	87	99	103
Girls	0– ..	8	4	2	3	4	7	5
	1– ..	25	43	45	40	48	35	41
	5– ..	17	23	18	19	23	16	25
	10–15 ..	2	17	13	10	17	10	21
Total	0–15 ..	361	396	532	488	491	490	544

Part of the increase which occurred in the later years was due to drowning in the emergency water tanks provided in towns for dealing with conflagrations. The numbers of fatalities of children aged 1–15 known to have arisen in that way during the five years 1941–45 were 1, 22, 44, 26, 37, and of this total of 130 all except nine were deaths of boys.

In 1944 the 490 deaths of children caused by drowning were classified as due to :—bathing 57, canal 93, river 96, pond 53, emergency water supply 26, reservoir 11, tub or tank 26, other or not stated 128.

195a. **Vaccinia and other sequelæ of Vaccination against Smallpox.**—Deaths due to administration of vaccines for prevention of diseases other than smallpox are included in No. 195b of the International List and will be considered in a separate section (*see* pages 266–267). In this section mention is made not only of the deaths classified to Nos. 195a1, Vaccinia, and 195a2, Other sequelæ of vaccination against smallpox, but also other deaths with mention of such vaccination on the certificate (or ascertained by other means to have been associated with such vaccination) and classified to some other condition as the underlying cause of death. The deaths of civilians classified to No. 195a during 1940–45 are shown in Table 6, and those of non-civilians which occurred in England and Wales are shown in Table 21A for each year. Except where otherwise stated in this section the deceased was a civilian.

In *1940* nine deaths were assigned to the heading of vaccinia, namely :— male, aged 2 months, certified as " post-vaccinal encephalitis " ; male, aged 6 months, certified as " toxæmia, generalised vaccinia following vaccination " ; male, aged 6 months, certified as " broncho-pneumonia, post-vaccinal encephalitis, vaccinia " ; male, aged 7 months, certified as " encephalitis following vaccination " ; male (non-civilian), aged 20, certified as " post-vaccinal encephalomyelitis " ; male (non-civilian), aged 24, certified as " encephalitis following vaccination " ; male (non-civilian), aged 26, certified as " toxæmia, encephalomyelitis " which was ascertained on enquiry to have been caused by vaccination ; female, aged 5 months, certified as " post-vaccinal encephalitis " ; female, aged 14 months, certified as " pneumonia in a patient whose condition was less resistant thereto by reason of chronic vaccinal encephalitis." In addition, the death of a male aged 2 months was assigned to enteritis, the certifier having indicated that vaccinia, although entered on the certificate, had no causal relation with the morbid condition causing death.

In *1941* four deaths were assigned to " vaccinia," namely :—male (non-civilian), aged 19, certified as " post-vaccinal encephalitis following successful

primary vaccination " ; male (non-civilian), aged 29, certified as " meningo-encephalitis," enquiry having shown that although both cerebrospinal meningitis and post-vaccinal encephalitis were present the latter was considered to be the primary infection ; female, aged 9 weeks, certified as " vaccinia, vaccination " ; female, aged 2, certified as " encephalitis, post-vaccinal whooping cough." Two deaths were assigned to other sequelæ of vaccination against smallpox, namely :—male, aged 5 months, certified as " diarrhœa and vomiting, infection of vaccination scar " ; female, aged 5 months, certified as "meningitis, vaccination."

In *1942* twelve deaths were assigned to " vaccinia," namely :—male, aged 2 months, certified as " post-vaccinal encephalitis " ; male, aged 6, certified as " post-vaccinal encephalitis, smallpox vaccination " ; male, aged 12, certified as " encephalitis," enquiry having shown that it arose from vaccination ; male (non-civilian), aged 18, certified as " encephalitis, vaccination " with contributory hypostatic pneumonia ; male (non-civilian), aged 19, certified as " encephalitis," enquiry having shown that it was post-vaccinal ; male (non-civilian), aged 20, certified as " acute encephalitis, vaccination " ; male (non-civilian), aged 28, certified as " encephalitis, vaccination " ; male, aged 29, certified as " post-vaccinal encephalitis " with contributory broncho-pneumonia ; female, aged 4 months, certified as " encephalitis," enquiry having shown it to be post-vaccinal ; female, aged 2, certified as " post-vaccinal encephalitis " ; female, aged 16, certified as " acute encephalomyelitis," enquiry having shown it to be post-vaccinal ; female (non-civilian), aged 29, certified as " post-vaccinal encephalitis." In addition three deaths with mention of vaccination were assigned to other causes, namely :—male, aged 5 months, certified as " broncho-pneumonia," with " encephalitis, post-vaccination " as contributory cause which was subsequently withdrawn by the certifier after investigation—assigned to broncho-pneumonia ; female, aged 7 months, certified as " pneumococcal septicæmia " with vaccination at $4\frac{1}{2}$ months as contributory cause—assigned to septicæmia ; female (non-civilian), aged 20, certified as " post-vaccinal encephalitis," the diagnosis and classification being revised subsequently to tuberculous meningitis as a result of pathological examination of the brain and cerebrospinal fluid.

In *1943* five deaths were assigned to " vaccinia," namely :—male, aged 2 months, certified as " post-vaccinal encephalitis " ; male, aged 6 months, similarly certified ; male, aged 2, certified as " encephalitis," enquiry having shown it to be post-vaccinal ; male (non-civilian), aged 17, certified as " acute bronchitis following post-vaccinal encephalitis " ; female, aged 5 months, certified as " post-vaccinal encephalitis following primary vaccination." One death was assigned to other sequelæ of vaccination, which may have belonged more properly to the " vaccinia " group, namely :—female (non-civilian), aged 20, certified as "cystitis and ascending pyelonephritis and broncho-pneumonia following on post-vaccinal myelitis."

In *1944* nine deaths were assigned to " vaccinia," namely :—male, aged 4 weeks, certified as " congestive heart failure, generalised vaccinia " ; male, aged 6 weeks, certified as " broncho-pneumonia due to vaccinia following vaccination " ; male, aged 3 months, certified as " encephalomyelitis, vaccinated " ; male (non-civilian), aged 31, certified as " encephalitis possibly following primary vaccination 16 days before " ; male (non-civilian), aged 31, certified as " gastro-enteritis " with subsequent amendment to post-vaccinal encephalitis; female, aged 3 months, certified as " encephalitis, vaccinia," subsequently amplified to post-vaccinal myelinoclastic encephalitis ; female, aged 5 months, certified as " toxæmia, generalised vaccinia, vaccination against smallpox " ; female, aged 13 months, certified as " toxæmia, vaccinia and right mastoiditis"; female (non-civilian), aged 22, certified as " encephalitis, vaccination." Two

deaths were assigned to other sequelæ of vaccination, namely :—female, aged 4 months, certified as " acute toxæmia, cellulitis of arm and thoracic wall," enquiry having shown the cellulitis to be due to infection of the site of vaccination ; female, aged 4 months, certified as " embolic pneumonia, cellulitis of left leg, secondary autovaccination, vaccination ". Another death of a female, aged 21 months, certified as due to septicæmia and found on enquiry to have had a long history of septic lesions and to have been vaccinated, was assigned to septicæmia.

In *1945* six deaths were assigned to " vaccinia," namely :—male, aged 3 months, certified as " pulmonary collapse associated with generalised vaccinia following prophylactic vaccination " ; male, aged 4 months, certified as " encephalitis ? vaccinal " ; male, aged 4 months, certified as " generalised vaccinia, vaccination " ; male, aged 5 months, certified as " encephalitis possibly post-vaccinal " ; female, aged 3 months, certified as " toxæmia consequent on general vaccinia resulting from vaccination " ; female, aged 5 months, certified as " acute encephalitis, ? vaccination nine days previously ". The death of a female, aged 5 months, originally certified as due to mastoiditis with mention of vaccination, was subsequently re-registered on a coroner's certificate as due to gastro-enteritis and so assigned.

195b. **Other accidents due to medical or surgical intervention.**—In this group are included, amongst others, deaths due to administration of vaccines or serum for the prevention (not treatment) of diseases other than smallpox, or with mention of such administration as a contributory cause of death. Details of these are given below.

In *1940* three deaths were assigned to 195bb :—male (non-civilian), aged 29, certified as " left coronary thrombosis accelerated by inoculation of T.A.B. vaccine " ; male (non-civilian), aged 33, certified as " acute dilatation of right side of heart with pulmonary œdema brought on by second injection of T.A.B. vaccine " ; male (non-civilian), aged 38, certified as " adherent pericardium due to old pericarditis, ventricular fibrillation, myocardial degeneration, anaphylactic shock following serum and vaccine treatment," enquiry having shown that the " treatment" had been preventive against typhoid and paratyphoid fevers.

In *1941* two deaths were assigned to other causes :—male (non-civilian), aged 30, certified as " congenital malformation " of the digestive system, death being accelerated by recent inoculation and vaccination ; female (non-civilian), aged 21, certified as miliary tuberculosis and tuberculous meningitis, death being accelerated by anti-typhoid inoculation.

In *1942* two deaths were assigned to other causes :—male (non-civilian), aged 39, certified as " encephalomyelitis," enquiry having shown that inoculation of T.A.B. vaccine had been administered ; female, aged 12, with acute infection of the throat, adrenal hæmorrhage and acute yellow atrophy of liver, enquiry having shown that immunisation to prevent diphtheria had been administered.

In *1943* four deaths of non-civilians were assigned to 195bb :—male, aged 20, certified as "anaphylaxis, prophylactic inoculation with T.A.B. and tetanus toxoid " ; male, aged 21, certified as acute yellow atrophy of liver, homologous serum jaundice, enquiry having shown that yellow fever vaccine had been administered ; male, aged 30, certified as " septicæmia following inoculation," enquiry having shown that the inoculation was against influenza ; male, aged 34, certified as " bronchial pneumonia following cellulitis of left arm," enquiry having shown that T.A.B. inoculation caused the cellulitis.

In *1944* seven deaths were assigned to 195bb :—male, aged 1, certified as " œdema of glottis due to protein shock from diphtheria (A.P.T.) prophylactic, predisposing cause pathological enlargement of brain " ; male, aged 14, due to " anaphylactic shock following injections for tetanus arising from accidental

injury " ; male, aged 17, due to " toxæmia from abscess of right thigh due to staphylococcus aureus infection entering the puncture subsequent to an anti-tetanus injection " ; male (non-civilian), aged 27, certified as " acute general toxæmia following an intravenous injection of T.A.B. " ; male (non-civilian), aged 46, due to " hepatitis following yellow fever inoculation " ; female, aged 16, certified as " anaphylactic shock following an injection of anti-tetanus serum " ; female (non-civilian), aged 21, certified as " acute anaphylactic shock following anti-typhoid inoculation." The death of a female, aged 13 months, certified as acute asthmatical bronchitis with mention of recent anti-diphtheritic injection as a contributory cause was assigned to asthma.

In *1945* two deaths were assigned to 195bb :—male, aged 15, certified as " anaphylactic shock, injection of anti-tetanic serum necessitated by finger being crushed by a motor tractor-drawn farm plough " ; male (non-civilian), aged 31, certified as " coma due to an affection of the nervous system of unknown cause coinciding with a primary vaccination reaction," enquiry having shown that inoculation against tetanus, typhoid and typhus had also been performed and that there was no evidence of post-vaccinal encephalitis.

199, 200. **Ill-defined Causes of Death.**—These headings in the International List exclude such ill-defined diseases of infancy and old age as occur in Nos. 158, Congenital debility, and Nos. 162a, c, Old age and senility without mention of senile dementia. The numbers classified to congenital debility in the eight years 1938–45 were 1,096, 1,048, 1,269, 1,227, 1,051, 853, 821, 649, and this fall since 1941, despite the increased numbers of births, is satisfactory. Deaths classed to old age and senility averaged 15,729 in years 1937–39, and numbered 18,419, 16,933, 15,013, 15,877, 15,490, 16,243 in the six years 1940–45. The number has not therefore diminished, though in consequence of the rising population of old people the C.M.I. has fallen from unity in 1938 to about 0·85 in 1945. Deaths so certified are not ill-defined in quite the same sense as the deaths classified to Nos. 199 and 200, since senility is accepted at present as a sufficient cause of death if the age is 65 or over. All deaths classified to the " ill-defined " numbers have, on the other hand, with very few exceptions (e.g., " unknown," " pyrexia of uncertain origin ") been the subject of enquiry before being so classed. The deaths in Nos. 199–200 numbered 1,091, 931, 1,056, 985 in the four years 1938–41 and 824, 694, 662, 567 in years 1942–45, indicating, as for congenital debility, a rapid decrease after 1941. The total in 1940–45 was 4,788.

Enquiries sent to medical practitioners and coroners requesting further information as to indefinitely certified deaths in the whole period 1940–45 totalled 74,423, and to these 63,731 replies were received. The most important of the results to classification are shown in Table CXXVIII.

Cancer without specification of the primary site accounted for 10,447, resulting in the necessary information in 9,526. Out of 1,394 undefined cerebral tumours which had been subjected to autopsy, 520 were ascertained to be gliomas, 396 other malignant neoplasms and 230 non-malignant ; and out of 4,270 ill-defined tumours of other sites 3,072 were ascertained to be malignant. " Rheumatism" accounted for 5,153, with resulting classification of 896 to rheumatic fever, 3,988 to chronic rheumatic heart diseases, 40 to rheumatoid arthritis and 43 to other chronic rheumatism.

" Encephalitis " accounted for 844, resulting in a very varied classification ; and the same was true of " meningitis " with 1,010. The unsatisfactory description " cerebrospinal meningitis " accounted for 1,525, resulting in the information that 102 were non-meningococcal forms. " General paralysis " turned out to mean G.P.I. in 42 instances outside mental institutions. " Paraplegia " and " paralysis," with and without the qualifying adjective " spastic," contributed 726, and a wide distribution of diseases resulted from the enquiries.

Table CXXVIII.—Replies to Enquiries respecting Indefinitely Certified Causes of Death. 1940–45.

Subject of enquiry	Replies received	Replies amplifying previous information	Deaths allocated as the result of enquiry to certain headings
Croup	10	9	Diseases of the larynx 7, Lobar pneumonia 1, Diseases of the pharynx and tonsils 1.
Pyæmia, Septicæmia, etc.	821	661	Cerebrospinal fever 7, Tuberculosis 3, Cancer 1, Septic endocarditis 5, Diseases of the lymphatic system 3, Diseases of the teeth and gums 12, Diseases of the mouth and throat 15, Diseases of the pharynx and tonsils 28, Post-abortive sepsis 2, Puerperal sepsis 4, Diseases of the skin and cellular tissue 100.
Tuberculosis ..	299	295	Tuberculosis of the respiratory system 168, Tuberculosis of the meninges and central nervous system 7, Tuberculosis of the intestines and peritoneum 9, Tuberculosis of the vertebral column 10, Tuberculosis of other bones and joints 17, Tuberculosis of the skin and subcutaneous tissue 1, Tuberculosis of the lymphatic system 4, Tuberculosis of the genito-urinary system 5, Disseminated tuberculosis 13.
Cancer (part or organ not stated).	10,447	9,701	Part or organ stated in 9,526 cases.
Cerebral tumour (P.M. cases).	1,394	1,298	Tuberculosis of the meninges and central nervous system 15, Syphilis 3, Cancer 916 (including 520 cases of glioma), Non-malignant cerebral tumour 230.
Tumour of other sites	4,270	3,921	Tuberculosis of the respiratory system 2, Tuberculosis of the skin and subcutaneous tissue 1, Syphilis 13, Cancer 3,072.
Rheumatism ..	5,153	5,119	Syphilis 1, Rheumatic fever 896, Rheumatoid arthritis 40, Other chronic rheumatism 43, Rheumatic heart disease, 3,988.
Encephalitis.. ..	844	587	Cerebrospinal fever 7, Tuberculosis of the meninges and central nervous system 16, Disseminated tuberculosis 1, Syphilis 11, Influenza 14, Measles 2, Acute poliomyelitis 2, Acute polioencephalitis 18, Encephalitis lethargica 242, Cancer 1, Other forms of encephalitis 80, Meningitis (non-meningococcal) 18.
Basic or basal meningitis.	48	31	Cerebrospinal fever 13, Tuberculosis of the meninges and central nervous system 6, Syphilis 1, Meningitis (non-meningococcal) 7.
Cerebrospinal meningitis.	1,525	1,465	Cerebrospinal fever 1,331, Tuberculosis of the meninges and central nervous system 17, Syphilis 1, Influenza 5, Meningitis (non-meningococcal) 79.
Meningitis (unqualified)	1,010	820	Cerebrospinal fever 274, Tuberculosis of the meninges and central nervous system 143, Syphilis 8, Influenza 31, Meningitis (non-meningococcal) 231, Diseases of the ear 10.
Spinal sclerosis ..	52	39	Syphilis 2, Acute poliomyelitis 1, Motor neurone disease 8, Other disease of the spinal cord 2, Disseminated sclerosis 19.
Cerebral sclerosis ..	76	66	Intra-cranial lesions of vascular origin 11, Disseminated sclerosis 6, Arteriosclerosis 14.
General paralysis (outside asylums).	53	52	General paralysis of the insane 42.

Table CXXVIII—(*contd.*)

Subject of enquiry	Replies received	Replies amplifying previous information	Deaths allocated as the result of enquiry to certain headings
Paraplegia	266	211	Tuberculosis of the vertebral column 3, Syphilis 13, Poliomyelitis 2, Cancer 1, Cerebral tumour 2, Diseases of the medulla and spinal cord 29, Intra-cranial lesions of vascular origin 45, Disseminated sclerosis 12, Other diseases of the nervous system 3, Arteriosclerosis 3.
Paralysis	176	158	Diphtheria 1, Syphilis 3, Diseases of the medulla and spinal cord 27, Cerebral hæmorrhage, apoplexy, etc. 12, Other intra-cranial lesions of vascular origin 19, Paralysis agitans 3, Disseminated sclerosis 2, Other diseases of the nervous system 8.
Spastic paraplegia and paralysis.	284	212	Syphilis 7, Cerebral tumour 2, Pernicious anæmia 2, Diseases of the medulla and spinal cord 63, Cerebral hæmorrhage, apoplexy, etc. 9, Other intra-cranial lesions of vascular origin 2, Paralysis agitans 1, Disseminated sclerosis 19, Other diseases of the nervous system 44, Arteriosclerosis 4.
Aortitis, arteritis and endarteritis.	440	406	Syphilis 164, Arteriosclerosis 53, Other diseases of the arteries 50.
Fibroid phthisis ..	258	248	Tuberculosis of the respiratory system 225, Silicosis 1, Chronic interstitial pneumonia 2.
Hæmoptysis ..	61	57	Tuberculosis of the respiratory system 17, Cancer 1.
Stomatitis	113	99	Diseases due to spirochætes 4, Thrush, aphthous stomatitis, etc., 8, Diseases of the teeth and gums 21.
Stricture of œsophagus	79	64	Cancer 23, Non-malignant tumour 1.
Hæmatemesis ..	311	254	Syphilis 1, Cancer 33, Ulcer of stomach or duodenum 133, Cirrhosis of liver (without alcoholism) 3.
Pyloric stenosis, obstruction, etc.	308	280	Cancer 47, Ulcer of stomach or duodenum 166.
Jaundice	438	370	Syphilis 5, Weil's disease 19, Influenza 2, Epidemic catarrhal jaundice 1, Other infective or parasitic diseases 7, Cancer 56, Cirrhosis of liver 4, Acute yellow atrophy 2, Other diseases of the liver 7, Biliary calculi 25, Other diseases of the gall bladder and bile ducts 16, Congenital malformations 3, Jaundice neonatorum 8.
Peritonitis	501	348	Tuberculosis of the intestines and peritoneum 13, Tuberculosis of the vertebral column 1, Syphilis 1, Cancer 20, Ulcer of stomach or duodenum 42, Appendicitis 108, Hernia, intestinal obstruction 26, Diverticulitis 5, Other diseases of the intestines 4, Diseases of the female genital organs 16.
Pemphigus of infants	240	222	Syphilis 14, Pemphigus neonatorum 134.
Hydrocephalus ..	306	290	Cerebrospinal fever 2, Tuberculosis of the meninges and central nervous system 4, Syphilis 2, Cancer 1, Congenital hydrocephalus 222.
Anæmia	958	801	Tuberculosis 1, Syphilis 4, Cancer 24, Pernicious anæmia 221, Other hyperchromic anæmias 59, Hypochromic anæmias 77, Other anæmias 114, Diseases of the myocardium 13, Diseases of the teeth and gums 5.
Uræmia	1,212	1,128	Scarlet fever 1, Tuberculosis 2, Cancer 24, Nephritis 802, Diseases of the prostate 104.

Table CXXVIII—(*contd.*)

Subject of enquiry	Replies received	Replies amplifying previous information	Deaths allocated as the result of enquiry to certain headings
Valvular heart disease (ages under 45).	854	841	Rheumatic fever 18, Rheumatic heart disease 512, Other chronic valvular heart disease 251.
Endocarditis ..	495	473	Diphtheria 1, Influenza 1, Rheumatic fever 73, Acute endocarditis 13, Rheumatic heart disease 175, Other chronic valvular heart disease 70.
Lung abscess ..	504	435	Tuberculosis of the respiratory system 20, Influenza 4, Cancer 30, Bronchitis 62, Bronchopneumonia 39, Lobar pneumonia 42, Pneumonia (unspecified) 57.
Arthritis	397	393	Rheumatoid arthritis 210, Chronic rheumatism 160.
Violence	3,084	2,959	Cancer 2, Precise forms of suicide 350, Railway accidents 11, Road transport accidents 732, Injury in mines and quarries 109, Injury by machinery 64, Accidental absorption of poison gas 26, Other acute accidental poisoning 11, Burns 1, Accidental mechanical suffocation 80, Drowning 33, Injury by fall, crushing, etc. 408, Accidents due to electric currents 44, War operations 111.
Syncope, heart failure	2,663	2,522	Tuberculosis 4, Syphilis 4, Influenza 14, Cancer 8, Diseases of the heart 1,714, Arteriosclerosis 121, High blood pressure 57, Bronchitis 156, Nephritis 42, Congenital malformation of the heart 23.
Operation	3,639	3,532	Tuberculosis 11, Syphilis 3, Cancer 294, Tumour of the female genital organs 377, Exophthalmic goitre 19, Ulcer of stomach or duodenum 418, Appendicitis 86, Hernia, intestinal obstruction 169, Biliary calculi 326, Other diseases of the gall bladder and bile ducts 38, Diseases of the prostate 424, Diseases of the female genital organs 265, Diseases of the bones and organs of movement 14, Congenital malformations 40, Violence 75.
Other indefinite forms of certification.	20,130	17,866	
Total	**63,731**	**58,244**	

In addition, 7,135 enquiries were made in connection with Parturition.

"Fibroid phthisis" was found to mean respiratory tuberculosis in 225 instances, silicosis in one and chronic interstitial pneumonia in two. "Hæmoptysis" was said to be respiratory tuberculosis 17 times out of 61 enquiries; and "hæmatemesis" was specified as due to cancer in 33 and peptic ulcers in 133 out of 311. Enquiries regarding "jaundice" resulted in 19 being classified to Weil's disease, 56 to cancer and 25 to gallstones; and those regarding "peritonitis" revealed tuberculosis in 14 instances, cancer in 20, peptic ulcers in 42, appendicitis in 108. "Uræmia" accounted for 1,212, and classification to nephritis resulted in two-thirds of these, diseases of the prostate being the cause in 104 and cancer in 24.

In addition to the foregoing, enquiries were addressed to medical practitioners who had initialled statement "B" on the back of the form of medical certificate,

thereby indicating the possibility of their being in a position to furnish additional information as a result of a post mortem or laboratory examination which was not available at the time of signing the certificate. In 1940–45 these totalled 24,467, and 19,868 replies were received, amending the original certification in 9,697 cases.

Special enquiries regarding deaths from causes connected with childbearing numbered 7,135 in those years.

Anæsthetics.—The usual analyses of deaths during or connected with the administration of an anæsthetic have been continued for 1940–45. They are obtained by secondary tabulation of these deaths, since the primary tabulation classifies such deaths to the disease or injury on account of which the anæsthetic was administered. In a few instances fatalities occurred where anæsthesia was not being given for purposes of treatment or diagnosis of disease, and these are now classified to a new number of the International List, No. 195ba, Anæsthetic accidents, the numbers in the six years 1940–45 being 4, 2, 4, 2, 2, 0. They appear amongst " other causes " in Table CXXXII, and are also included in the other tables.

The total numbers of deaths in 1938 and 1939 were 916 and 845, and in the six years 1940–45 there were 795, 835, 766, 840, 775, 764. As Table CXXIX shows, the annual average was 398 in 1921–25, 787 in 1931–35 and 796 in 1941–45, the maximum number in any one year being 916 in 1938. For years before 1911 the record of anæsthetic deaths is contained amongst accidental deaths, certain causes (cancer and strangulated hernia) being preferred in classification. For comparability with those years it is necessary to make allowance for that by deducting about 180 deaths from the totals of recent years.

Comparing the yearly average of deaths at different ages for each sex in 1936–40 with those in 1931–35, considerable increases occurred amongst males aged 25–35 and over 65, and amongst females over 55. In 1941–45 the average numbers fell amongst males under 25 and 55–65 and amongst females of each age group under 65, but the increase continued at ages over 65 for each sex. Deaths of children aged 5–15 were less frequent in 1945 than in any year since 1925. The changes in age distribution during 20 years may be seen from the fact that the proportions in successive periods from 1921–25 to 1941–45 of persons over 55 were 18, 27, 29, 32 and 36 per cent., this progressive increase being much greater than can be accounted for by changes in the age structure of the population.

Table CXXX gives in full detail the types of anæsthetic which were administered according to sex and age of the decedents in the whole period 1940–45 ; and Table CXXXI compares the frequencies of the principal groups of anæsthesia by inhalation in each of the years with the totals in successive periods from 1928–30 to 1937–39. Aggregating the deaths in 1940–42 and in 1943–45, the trends of the totals in the six periods were as follows :—

Chloroform (with or without nitrous oxide) ..	303	266	202	165	106	73
Ether alone	696	656	570	498	422	336
Ether and nitrous oxide alone	49	89	226	394	451	467
Chloroform and ether (including A.C.E. and with or without nitrous oxide)	629	577	482	310	198	106
Ether and ethyl chloride (with or without nitrous oxide)	73	138	234	272	225	217
Other mixtures containing chloroform or ether	31	46	68	81	112	124
Ethyl chloride (with or without nitrous oxide)	29	40	57	71	42	80
Nitrous oxide alone	109	164	211	269	259	170

Table CXXIX.—Deaths, including those of non-civilians, under or associated with Anæsthesia, 1901–45.

Year	Males									Females								
	All ages	0–	5–	15–	25–	35–	45–	55–	65–	All ages	0–	5–	15–	25–	35–	45–	55–	65–
Yearly average—																		
1901–05* ..	95	14	20	9	13	16	11	7	4	53	6	9	7	11	8	8	3	2
1906–10* ..	125	26	20	12	16	18	16	9	8	77	7	14	9	18	11	10	4	3
1911–15 ..	167	30	23	14	20	28	24	16	10	116	14	17	15	16	22	18	10	5
1916–20 ..	188	36	25	25	27	22	20	19	13	119	11	16	14	21	22	17	7	9
1921–25 ..	229	40	28	20	18	27	36	37	24	169	20	17	17	30	29	25	17	12
1926–30 ..	361	56	47	30	26	37	50	62	53	288	29	29	29	44	51	49	34	23
1931–35 ..	432	63	48	37	33	43	56	80	71	353	34	40	36	60	55	50	43	35
1936–40 ..	457	65	51	37	40	42	59	77	85	401	34	41	34	64	59	55	60	54
1941–45 ..	436	59	45	30	39	43	59	71	92	360	31	27	26	48	53	53	56	67
1921	204	30	29	16	16	19	34	30	30	133	16	23	16	24	21	19	11	3
1922	185	29	21	16	9	27	30	35	18	151	16	15	12	29	31	26	12	10
1923	262	45	37	29	17	38	35	34	27	184	22	23	14	23	32	32	23	15
1924	245	51	30	21	25	21	42	39	16	184	26	11	30	29	31	21	18	18
1925	249	43	25	17	23	28	39	45	29	193	22	14	15	43	32	29	23	15
1926	306	57	43	23	29	34	39	43	38	250	32	22	29	35	44	51	23	14
1927	328	43	51	25	20	30	42	70	47	268	24	28	29	46	47	40	35	19
1928	384	63	41	30	23	43	55	67	62	272	29	21	27	44	45	44	33	29
1929	414	66	61	31	25	43	63	64	61	316	35	35	27	52	52	50	43	22
1930	375	51	41	39	34	34	52	68	56	332	27	39	33	45	66	58	35	29
1931	413	60	51	44	36	41	51	73	57	310	27	40	23	60	55	43	38	24
1932	416	66	49	37	29	45	58	68	64	333	24	40	33	60	58	42	36	40
1933	425	67	47	44	22	42	56	78	69	343	35	39	47	50	44	48	47	33
1934	440	66	45	29	37	43	48	91	81	374	43	43	38	67	45	53	46	39
1935	467	57	47	31	43	45	68	91	85	403	42	37	37	63	75	64	47	38
1936	453	69	53	39	44	39	57	73	79	386	41	33	31	69	59	54	55	44
1937	458	68	48	40	35	40	76	75	76	436	40	41	44	71	65	56	60	59
1938	491	74	59	45	45	36	63	76	93	425	34	43	34	63	61	60	69	61
1939	452	56	51	28	37	44	55	87	94	393	28	47	26	62	61	63	58	48
1940	430	60	44	35	37	49	46	75	84	365	28	39	33	54	51	43	57	60
1941	465	58	54	30	51	52	55	82	83	370	35	36	24	45	63	59	48	60
1942	418	63	40	33	40	44	52	59	87	348	23	25	37	38	47	40	56	82
1943	455	63	48	29	39	41	63	79	93	385	31	26	24	50	66	68	70	50
1944	423	56	47	26	29	44	60	61	100	352	41	26	21	53	42	49	56	64
1945	419	53	34	33	34	32	64	72	97	345	27	20	22	52	48	47	51	78

* Excluding deaths from cancer and strangulated hernia.

Table CXXX.—Deaths, including those of non-civilians, under or connected with the Administration of various Anæsthetics, according to Sex and Age. 1940–45.

Anæsthetic		All ages	Age													
			0–	1–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	65–
Anæsthesia by inhalation																
Chloroform	M.	66	2	11	6	3	2	3	3	1	3	5	5	4	8	10
	F.	81	2	9	3	1	1	4	13	15	13	4	3	2	6	5
Chloroform and cocaine ..	F.	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Chloroform and ether	M.	138	6	17	11	5	2	7	7	6	10	8	11	14	15	19
	F.	123	3	2	8	5	6	11	8	11	12	13	7	8	15	14
Chloroform, ether and ethyl chloride.	M.	17	—	3	1	1	1	1	—	1	3	2	1	2	—	1
	F.	10	1	2	2	1	—	1	1	—	1	—	—	—	1	—
Chloroform, ether, ethyl chloride and nitrous oxide ..	M.	2	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Chloroform, ether, ethyl chloride, nitrous oxide and pentothal	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Chloroform, ether, ethyl chloride, omnopon and scopolamine	M.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Chloroform, ether and nitrous oxide	M.	27	—	—	1	—	1	3	3	5	—	2	1	1	5	5
	F.	7	—	—	—	—	—	—	1	—	1	—	1	2	2	—
Chloroform, ether, nitrous oxide and pentothal	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Chloroform, ether and avertin	M.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
	F.	2	1	—	—	—	—	—	—	—	—	—	—	—	1	—

Table CXXX—(*contd.*)

Anæsthetic		All ages	Age													
			0–	1–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	65–
Anæsthesia by inhalation (contd.)																
Chloroform, ether, omnopon and scopolamine	F.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Chloroform, ether and pentothal	M.	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Chloroform, ether and percaine	M.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Chloroform, ether and procaine	M.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Chloroform and ethyl chloride	M.	3	1	—	1	—	—	—	—	—	—	1	—	—	—	—
Chloroform, ethyl chloride and nitrous oxide	M.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Chloroform and nitrous oxide	M.	23	—	1	2	—	—	—	3	—	1	2	—	2	5	7
	F.	9	—	1	1	1	1	1	1	—	—	2	1	—	—	—
Chloroform, nitrous oxide and avertin	M.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Chloroform, nitrous oxide and evipan	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Chloroform, nitrous oxide and neocaine	F.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Chloroform, nitrous oxide and pentothal	M.	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
	F.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Chloroform, nitrous oxide and percaine	F.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Chloroform, nitrous oxide and stovaine	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Chloroform and alcohol	M.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Chloroform and percaine	M.	2	—	—	—	—	—	—	—	—	—	—	—	1	1	—
Chloroform and pentothal	M.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Ether	M.	423	44	72	52	23	16	8	16	13	13	23	24	25	41	53
	F.	335	12	47	41	13	9	11	14	29	19	23	19	22	39	37
Ether and ethyl chloride	M.	240	29	69	43	18	8	5	3	5	9	5	5	7	16	18
	F.	167	14	46	31	6	3	7	4	10	7	8	11	5	5	10
Ether, ethyl chloride and nitrous oxide	M.	21	—	2	2	1	—	—	—	3	—	1	—	—	5	7
	F.	14	—	1	—	—	—	—	2	—	1	2	2	—	3	3
Ether, ethyl chloride, nitrous oxide, atropine and nembutal	M.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Ether, ethyl chloride, nitrous oxide and avertin	F.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Ether, ethyl chloride, nitrous oxide and evipan	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Ether, ethyl chloride, nitrous oxide and pentothal	M.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
	F.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Ether, ethyl chloride and avertin	M.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
	F.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Ether, ethyl chloride and cyclopropane	M.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Ether, ethyl chloride and evipan	F.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Ether, ethyl chloride, omnopon and scopolamine	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Ether, ethyl chloride and pentothal	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Ether, ethyl chloride and percaine	M.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Ether and nitrous oxide	M.	485	4	18	25	17	20	14	20	29	29	31	40	36	100	102
	F.	438	2	13	12	9	16	20	20	39	41	30	35	40	91	70
Ether, nitrous oxide and avertin	M.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
	F.	12	—	—	—	1	—	1	2	1	1	—	3	3	—	—
Ether, nitrous oxide, avertin and atropine	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Ether, nitrous oxide, avertin and cyclopropane	M.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Ether, nitrous oxide, avertin and tribromethanol	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Ether, nitrous oxide and cyclonal	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Ether, nitrous oxide and cyclopropane	M.	2	—	—	—	—	—	—	1	—	—	—	—	1	—	—
	F.	2	—	—	—	—	—	—	—	—	—	—	1	—	1	—
Ether, nitrous oxide, cyclopropane and pentothal	F.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Ether, nitrous oxide and bromethal	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Ether, nitrous oxide and evipan	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Ether, nitrous oxide and hexobarbitone	M.	2	—	—	—	—	—	—	1	—	—	—	—	1	—	—
	F.	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Ether, nitrous oxide, nembutal, omnopon, pentothal and scopolamine	M.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Ether, nitrous oxide and novocaine	M.	2	—	—	—	—	—	—	—	—	—	—	—	1	1	—
	F.	2	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Ether, nitrous oxide and omnopon	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Ether, nitrous oxide, omnopon and pentothal	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Ether, nitrous oxide, omnopon and scopolamine	F.	5	—	—	—	—	—	—	1	—	—	—	—	1	2	1

Table CXXX—(*contd.*)

Anæsthetic		All ages	Age													
			0–	1–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	65–
Anæsthesia by inhalation (cont.)																
Ether, nitrous oxide, omnopon, scopolamine and pentothal	F.	2	—	—	—	—	—	—	—	—	—	—	1	—	1	—
Ether, nitrous oxide and pentothal	M.	25	—	—	—	—	—	5	3	5	2	—	1	3	2	4
	F.	15	—	—	—	—	1	2	1	1	—	2	1	1	4	2
Ether, nitrous oxide, pentothal and cocaine	F.	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Ether, nitrous oxide, pentothal and percaine	M.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
	F.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Ether, nitrous oxide and percaine	M.	7	—	—	—	—	—	1	—	1	—	—	—	3	1	1
	F.	6	—	—	—	—	—	—	—	1	—	—	1	2	1	1
Ether, nitrous oxide and stovaine	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Ether, nitrous oxide, trichlorethylene and vinesthene	M.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Ether, nitrous oxide and vinesthene	M.	3	—	—	—	—	—	—	—	—	—	1	—	2	—	—
	F.	2	—	1	—	—	—	—	—	—	—	—	—	—	1	—
Ether and A.C.E.	F.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Ether, A.C.E. and nembutal	F.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Ether and avertin	M.	3	1	1	—	—	—	—	—	—	—	—	1	—	—	—
	F.	6	—	2	1	—	—	—	1	—	2	—	—	—	—	—
Ether and cyclonal	F.	3	—	—	—	—	—	2	—	—	—	1	—	—	—	—
Ether and cyclopropane	M.	3	—	—	1	—	—	—	—	—	1	—	—	—	—	1
Ether, cyclopropane and pentothal	M.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
	F.	2	—	—	—	—	—	—	—	1	1	—	—	—	—	—
Ether, cyclopropane, pentothal, scopolamine and omnopon	F.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Ether and decicaine	M.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Ether and durocaine	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Ether, durocaine and evipan	M.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Ether and evipan	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
	F.	2	—	—	—	—	—	—	1	—	—	—	1	—	—	—
Ether and hexobarbitone	F.	2	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Ether and hexanastab	F.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Ether and kemithal	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Ether and metycaine	F.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Ether, morphia and hyoscine	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Ether and nembutal	F.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Ether and novocaine	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Ether and narcotine	F.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Ether and omnopon	M	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Ether, omnopon and scopolamine	M.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Ether and pentothal	M.	9	—	—	—	—	2	1	—	1	1	1	1	1	—	1
	F.	5	—	—	—	1	—	—	2	—	1	—	1	—	—	—
Ether and percaine	M.	2	—	—	—	—	—	—	—	—	—	—	—	—	2	—
	F.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Ether and spinocaine	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Ether and vinesthene	F.	2	—	1	1	—	—	—	—	—	—	—	—	—	—	—
Ether and anæsthetic not stated	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Vinyl ether	F.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Vinyl ether and nitrous oxide	M.	2	—	—	—	—	1	—	—	—	1	—	—	—	—	—
Vinyl ether and cyclopropane	M.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Ethyl chloride	M.	62	9	26	8	3	3	2	2	2	—	1	—	1	1	4
	F.	26	1	4	6	1	—	—	1	2	3	1	1	3	1	2
Ethyl chloride and nitrous oxide.	M.	16	—	1	—	—	—	2	—	—	1	2	—	1	3	6
	F.	18	—	1	1	—	—	—	1	1	2	2	2	1	1	6
Ethyl chloride, nitrous oxide and cyclopropane	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Ethyl chloride, nitrous oxide and evipan	M.	3	—	—	—	—	—	—	1	—	1	—	—	—	1	—
Ethyl chloride, nitrous oxide and novocaine	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Ethyl chloride, nitrous oxide and pentothal	M.	2	—	—	—	—	—	1	1	—	—	—	—	—	—	—
	F.	3	—	—	—	—	—	—	—	1	—	—	—	—	1	1
Ethyl chloride, nitrous oxide and percaine	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Ethyl chloride and A.C.E.	M.	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Ethyl chloride and avertin	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Ethyl chloride, avertin, omnopon and scopolamine	F.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Ethyl chloride and pentothal	M.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Ethyl chloride and percaine	M.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
A.C.E.	M.	4	—	1	—	—	—	—	—	—	1	1	—	—	1	—
	F.	5	—	—	—	—	—	1	—	1	—	1	—	—	—	2
A.C.E. and nitrous oxide	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Nitrous oxide	M.	225	1	7	6	13	15	11	14	12	15	5	6	16	40	64
	F.	204	—	4	4	2	6	14	12	23	15	18	15	9	35	47
Nitrous oxide and avertin	M.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
	F.	8	—	—	1	—	—	1	—	1	—	—	—	1	3	1
Nitrous oxide, avertin, omnopon, scopolamine and procaine	M.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Nitrous oxide, avertin and novocaine	F.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Nitrous oxide and cyclonal	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—

Table CXXX—(*contd.*)

Anæsthetic		All ages	Age												
			0–	1–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	65–
Anæsthesia by inhalation (contd.)																
Nitrous oxide and cyclopropane	M.	5	—	—	—	1	1	—	—	—	—	—	—	—	1	2
	F.	4	—	1	1	—	—	—	—	1	1	—	—	—	—	—
Nitrous oxide, cyclopropane and evipan	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Nitrous oxide, cyclopropane and novocaine	M.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Nitrous oxide, cyclopropane and pentothal	M.	4	—	—	—	—	—	—	—	—	1	—	1	2	—	—
	F.	2	—	—	—	—	—	—	—	—	—	—	1	—	—	1
Nitrous oxide and evipan	M.	6	—	—	—	—	—	—	—	—	—	—	1	—	2	3
	F.	2	—	—	—	—	—	2	—	—	—	—	—	—	—	—
Nitrous oxide, evipan and percaine	F.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Nitrous oxide and hexanastab	F.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Nitrous oxide and kemithal	F.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Nitrous oxide and metycaine	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Nitrous oxide and novocaine	M.	5	—	—	—	—	—	—	—	—	1	1	—	1	1	1
	F.	2	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Nitrous oxide and novutox	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Nitrous oxide and omnopon	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Nitrous oxide, omnopon, hyoscine and pentothal	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Nitrous oxide, omnopon and scopolamine	F.	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Nitrous oxide, omnopon, scopolamine and pentothal	F.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Nitrous oxide and pentothal	M.	27	—	—	—	—	—	—	1	4	4	3	3	6	2	4
	F.	20	—	—	—	—	—	1	1	2	2	—	5	1	4	4
Nitrous oxide, pentothal, morphia and atropine	M.	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Nitrous oxide, pentothal and percaine	F.	5	—	—	—	—	—	—	1	—	1	—	—	—	1	2
Nitrous oxide, pentothal and procaine	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Nitrous oxide, pentothal and trichlorethylene	M.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Nitrous oxide, pentothal and vinesthene	M.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Nitrous oxide and percaine	M.	18	—	—	—	—	—	2	1	1	—	1	3	1	7	2
	F.	13	—	—	—	—	—	1	—	—	1	2	3	1	3	2
Nitrous oxide, percaine and vinesthene	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Nitrous oxide and planocaine	M.	2	—	—	—	—	—	—	—	—	—	—	—	—	1	1
	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Nitrous oxide and procaine	M.	3	—	—	—	—	—	—	—	—	1	—	—	—	1	1
	F.	3	—	—	—	—	—	—	—	1	—	—	—	—	—	2
Nitrous oxide and spinocaine	F.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Nitrous oxide and trichlorethylene	M.	5	—	1	—	—	—	—	—	1	—	—	1	—	—	2
	F.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Nitrous oxide and vinesthene	F.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Other forms of anæsthesia																
Amethocaine	M.	7	1	—	—	—	—	—	—	—	—	—	1	1	2	2
	F.	3	—	—	—	—	—	—	1	—	—	—	1	1	—	—
Amethocaine and pentothal	M.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Amethocaine and planocaine	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Anethaine	M.	5	—	—	—	—	1	—	—	—	—	—	—	2	2	—
	F.	4	—	—	—	—	—	—	—	1	—	1	—	1	—	1
Anethaine and evipan	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Anethaine and hexobarbitone	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Anethaine and pentothal	F.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Avertin	M.	10	—	—	—	—	1	1	—	1	2	2	1	—	—	2
	F.	3	—	—	—	—	—	—	—	—	—	—	—	—	2	1
Avertin and cyclopropane	M.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
	F.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Avertin and pentothal	M.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Avertin and vinesthene	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Betacaine	M.	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Chloral	F.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Cocaine	M.	22	—	1	2	1	—	4	—	1	—	1	—	3	6	3
	F.	8	—	—	—	—	—	3	—	—	1	1	—	2	1	—
Cocaine and adrenalin	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Cocaine, novutox, omnopon and scopolamine	M.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Cocaine and omnopon	F.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Cocaine and pentothal	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Cyclonal	M.	6	—	—	—	—	—	1	1	—	—	—	—	1	1	2
	F.	4	—	—	—	—	—	—	1	1	—	—	—	—	—	2
Cyclonal and scopolamine	M.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Cyclopropane	M.	22	1	—	1	1	1	4	2	1	3	—	4	—	2	2
	F.	15	—	—	2	1	2	1	—	1	1	1	—	2	2	2
Cyclopropane and novocaine	F.	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Cyclopropane and novutox	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Cyclopropane, omnopon and scopolamine	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Cyclopropane and pentothal	M.	13	—	—	—	—	—	1	—	—	—	1	4	1	4	2
	F.	6	—	—	—	—	—	—	1	1	2	—	—	—	1	1

Table CXXX—(*contd.*)

Anæsthetic		All ages	Age 0–	1–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	65–
Other forms of anæsthesia (contd.)																
Cyclopropane and percaine	M.	3	—	—	—	—	—	—	1	—	—	—	1	—	—	1
	F.	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Cyclopropane and phenobarbitone	M.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Cyclopropane and seconal	F.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Decicaine	M.	11	—	—	—	1	1	—	1	—	—	1	—	1	4	2
	F.	6	—	—	—	—	—	1	1	—	1	1	—	1	1	—
Decicaine and morphia	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Decicaine and pentothal	M.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Decicaine and procaine	M.	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Duracaine	M.	5	—	—	—	—	—	—	—	—	—	—	—	—	3	2
	F.	5	—	—	—	—	—	—	—	—	—	—	—	1	2	2
Duracaine and pentothal	F.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Ethocaine	M.	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Evipan	M.	51	—	—	—	—	—	2	2	—	2	5	2	5	15	18
	F.	35	—	—	—	—	2	—	2	1	1	3	3	3	8	12
Evipan and cyclopropane	M.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Evipan and percaine	M.	3	—	—	—	—	1	—	—	—	—	—	—	—	1	1
	F.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Evipan and omnopon	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Hexobarbitone	M.	3	—	—	—	—	—	—	—	—	—	—	—	1	—	2
	F.	6	—	—	—	—	—	—	—	—	—	—	—	2	3	1
Hexobarbitone and percaine	M.	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—
Kemithal sodium	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Metycaine	M.	3	—	—	—	—	—	1	—	—	—	—	1	—	—	1
	F.	3	—	—	—	—	—	—	—	1	—	—	—	—	1	1
Narconumal	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Nembutal	M.	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Neocaine	M.	3	—	—	—	—	—	—	—	—	—	—	—	—	3	—
Noval	M.	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Novocaine	M.	57	—	1	1	1	1	—	3	2	1	3	—	5	7	32
	F.	40	2	—	—	—	1	3	2	—	2	2	1	1	7	19
Novocaine and cocaine	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Novocaine, omnopon, scopolamine and pentothal	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Novocaine and pentothal	M.	2	—	—	—	1	—	—	—	—	—	—	—	—	—	1
	F.	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Novocaine, pentothal and morphia	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Novutox	M.	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—
	F.	3	—	—	—	—	—	—	—	—	—	—	—	1	—	2
Novutox, omnopon and pentothal	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Omnopon	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Omnopon, pentothal, percaine and scopolamine	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Omnopon and scopolamine	M.	2	—	—	—	—	1	—	—	—	—	—	—	—	1	—
	F.	2	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Omnopon, scopolamine and percaine	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Omnopon, scopolamine and pentothal	M.	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Pantacaine	F.	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Pantacaine and pentothal	M.	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Pentothal	M.	142	—	—	—	4	8	5	9	8	8	8	13	6	32	41
	F.	96	—	1	—	—	3	5	5	1	2	6	7	9	19	38
Pentothal and percaine	M.	7	—	—	—	—	—	—	—	—	1	—	1	2	1	2
	F.	7	—	—	—	—	—	—	—	—	—	—	1	—	2	4
Pentothal and procaine	M.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Pentothal and stovaine	M.	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Pentothal and trichlorethylene	M.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Percaine	M.	137	—	—	—	—	1	4	5	3	8	4	8	12	35	57
	F.	127	—	—	—	—	1	3	3	4	6	8	10	14	34	44
Percaine and morphia	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Percaine and procaine	M.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
	F.	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Phenobarbitone	F.	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Planocaine	M.	19	2	—	—	2	1	—	—	—	2	1	—	3	3	5
	F.	14	—	—	—	—	—	—	—	1	1	2	—	1	2	7
Procaine	M.	17	—	—	—	—	—	—	—	—	—	1	1	2	4	9
	F.	15	—	1	—	—	—	—	1	1	1	2	—	1	3	5
Scopolamine	F.	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Spinocaine	M.	9	—	—	—	—	—	—	—	—	—	—	—	—	3	6
	F.	2	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Stovaine	M.	16	—	1	—	1	—	—	—	1	—	—	1	—	6	6
	F.	9	—	—	—	—	—	1	—	—	—	2	—	1	2	3
Trichlorethylene	M.	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—
	F.	3	—	1	—	—	—	—	—	—	—	—	—	—	2	—
Vinesthene	M.	3	2	—	—	—	—	—	—	—	1	—	—	—	—	—
	F.	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—
Anæsthetic not stated	M.	56	4	5	3	—	2	2	3	3	—	2	1	2	17	12
	F.	100	1	5	5	1	—	7	12	14	4	9	2	8	14	18
Total	**M.**	**2,610**	**107**	**246**	**169**	**98**	**93**	**93**	**114**	**116**	**133**	**129**	**151**	**189**	**428**	**544**
	F.	**2,165**	**39**	**146**	**128**	**44**	**53**	**108**	**120**	**172**	**156**	**161**	**147**	**159**	**338**	**394**

Table CXXXI.—Deaths, including those of non-civilians, under or associated with the Administration by Inhalation of Certain Anæsthetics, 1928–30, 1931–33, 1934–36, 1937–39 and each year 1940 to 1945.

	Sex	1928–30	1931–33	1934–36	1937–39	1940	1941	1942	1943	1944	1945
Chloroform (1)	M.	189	162	105	68	15	21	17	14	14	8
	F.	114	104	97	97	16	21	16	14	11	12
Ether (alone) (2)	M.	355	344	303	253	76	100	64	71	54	58
	F.	341	312	267	245	69	69	44	50	59	44
Ether and nitrous oxide (only) ..	M.	31	54	122	213	82	89	70	89	82	70
	F.	18	35	104	181	66	68	76	82	71	73
Chloroform and ether (1) ..	M.	351	320	272	173	39	36	35	26	15	14
	F.	260	234	194	126	35	24	23	24	9	15
A.C.E. mixture	M.	9	17	7	9	1	2	—	—	1	—
	F.	9	6	9	2	3	—	—	—	—	2
Ether and ethyl chloride (1) ..	M.	37	83	123	162	41	51	49	43	36	41
	F.	36	55	111	110	21	38	25	31	36	30
Other mixtures containing chloroform or ether (3).	M.	19	16	29	37	13	19	28	18	22	20
	F.	12	30	39	44	13	15	24	25	17	22
Ethyl chloride (1)	M.	19	18	33	38	10	9	9	21	14	15
	F.	10	22	24	33	4	5	5	8	10	12
Nitrous oxide (alone)	M.	68	91	112	131	58	36	39	33	25	34
	F.	41	73	99	138	47	44	35	33	25	20

(1) Including combinations with nitrous oxide, as in the corresponding lines of this table in previous years.
(2) The corresponding line of this table in years before 1938 included ether with nitrous oxide, now shown separately.
(3) Including combinations of chloroform or ether with morphia, atropine, nembutal or cocaine derivatives or substitutes.

Since no national statistics can be obtained to show the frequency of administration of different anæsthetics, it can only be surmised that the great changes in frequencies of these groups during the 15 years reflect changing popularity of the different modes of anæsthesia by inhalation. The number of deaths associated with use of chloroform alone or in any combination continues to fall, and the frequency of ether in combination with nitrous oxide continues to increase with corresponding diminution of ether alone. The frequency of deaths associated with nitrous oxide alone, which had been increasing before the war, registered a pronounced fall in 1943–45.

Presumably these changes in frequency are based to some extent upon supposed greater risks of certain anæsthetics, leading to the substitution of others, but considerations such as the comfort of the patient during and after the administration are also involved. In the six years 1934–39 there were about 850 deaths associated with administration of anæsthetics by means other than inhalation, and in the six years 1940–45 this total increased to about 1,050, as may be ascertained from Table CXXX. In the same periods the total deaths were 5,176 and 4,775 respectively.

The deaths tabulated must necessarily be those which occurred under and not those caused by anæsthesia, for it is impossible from certification to distinguish between deaths from the operation under anæsthesia and deaths due to the anæsthetic itself. Because of this and because the choice of the most suitable method is often governed by the kind of operation and the patient's condition it may be objected that national figures could not form a basis for estimating the relative risks attaching to particular anæsthetics. Nevertheless, it is unfortunate, as has been pointed out repeatedly in the Statistical Review, that the deaths associated with each type of anæsthetic cannot be collated with the number of its administrations, and at different ages. It is not even possible to determine in what measure the mortality risk associated with anæsthesia in general is changing. Without a knowledge of the frequency of administration of a particular anæsthetic combined with the

frequency of deaths occurring during such administration, no reliable judgment of its safety can be reached, and this may result in the continued use of a new anæsthetic in ignorance of the fact that it carries a considerably higher risk. If the ratio of deaths to administrations on a national scale seemed to indicate that, it would then be possible to search, by means of *ad hoc* studies on a regional scale, for possible explanations of it in the unfavourable selection of patients for whom the anæsthetic was being used.

Table CXXXII classifies the deaths associated with anæsthesia in two periods of the war according to the causes to which they were classified, that is to say, in most instances the reasons for which the operations were performed. For cancer the totals in 1937–39, 1940–42 and 1943–45 were 359, 339, 372; for exophthalmic goitre 65, 38, 37 (suggesting a lower frequency of operations for this condition during the war); for diseases of the teeth 71, 70, 46; for ulcer of the stomach and duodenum 107, 124, 118; for appendicitis 267, 205, 137; for hernia 179, 181, 187; for diseases of the prostate 57, 71, 72; for circumcision 25, 22, 23; for childbirth and abortion 168, 114, 141.

Table CXXXII.—Classification of Deaths, including those of non-civilians, under or associated with Anæsthesia. 1940–42, 1943–45.

	Cause to which death was assigned	1940–42		1943–45	
		Males	Females	Males	Females
14–22	Non-respiratory tuberculosis	15	15	17	8
45–55	Cancer	176	163	187	185
56a, b, c	Non-malignant tumours of female genital organs	—	58	—	59
56d, e	Other non-malignant tumours	28	20	23	23
63a	Simple goitre	1	12	1	13
63b	Exophthalmic goitre	9	29	6	31
88	Diseases of the organs of vision	5	12	13	6
89	Diseases of the ear and mastoid antrum	15	23	34	16
98	Gangrene	2	5	4	2
115a	Diseases of the teeth and gums	42	28	29	17
115c	Other diseases of the pharynx and tonsils	64	28	55	44
117	Ulcer of the stomach and duodenum	109	15	107	11
121	Appendicitis	128	77	73	64
122a	Hernia	116	65	125	62
122b : 1	Intussusception	13	9	14	8
122b : 3	Other intestinal obstruction	46	37	44	41
123	Other diseases of the intestines	9	11	8	8
126	Biliary calculi	14	26	7	22
127	Diseases of the gall bladder	7	13	11	12
129	Peritonitis	4	4	3	4
130–133	Diseases of the kidney	5	4	9	10
134	Calculi of the urinary passages	9	3	7	4
137	Diseases of the prostate	71	—	72	—
138 pt.	Circumcision	22	—	23	—
139	Diseases of the female genital organs	—	48	—	37
140–150	Childbirth and abortion	—	114	—	141
151–153	Diseases of the skin and cellular tissue	11	5	10	7
154–156	Diseases of the bones and joints	22	11	15	10
157	Congenital malformations	29	14	49	32
*163–198	Violence	209	104	174	90
	Other causes	132	130	177	115
	All causes	**1,313**	**1,083**	**1,297**	**1,082**

* Excluding three male and seven female deaths in 1940–42, and three male and one female death in 1943–45 assigned to 195ba, Anæsthetic accidents, which are included with Other causes.

There were 195 deaths in 1940–45 under anæsthetics for which record was made of the presence of *status lymphaticus* but which have been classified to the condition occasioning the administration of the anæsthetic. The annual numbers have declined from 50 in 1938 to 21 in 1945. The sex and age distribution of these deaths is shown in the table below.

Year	Sex	0–	5–	10–	15–	20–	25–	35–	45–	55 and over	All ages
1940 ..	M.	15	4	—	1	2	2	1	1	—	26
	F.	2	—	1	2	—	—	1	—	—	6
1941 ..	M.	15	7	2	2	—	—	—	—	—	26
	F.	3	3	2	2	—	—	1	—	—	11
1942 ..	M.	11	5	1	2	2	1	1	—	—	23
	F.	5	4	2	—	3	1	1	—	—	16
1943 ..	M.	15	5	2	4	1	2	1	—	—	30
	F.	8	3	—	—	—	2	1	1	—	15
1944 ..	M.	4	2	4	3	—	—	1	—	—	14
	F.	3	1	—	—	2	1	—	—	—	7
1945 ..	M.	8	2	2	1	1	—	1	—	—	15
	F.	2	1	—	—	—	2	1	—	—	6
1940–45	**M.**	**68**	**25**	**11**	**13**	**6**	**5**	**5**	**1**	—	**134**
	F.	**23**	**12**	**5**	**4**	**5**	**6**	**5**	**1**	—	**61**

APPENDIX A.—Proportions of the Population of Children under 15 years of age at the end of 1945 who had been Immunised against Diphtheria, in different parts of England and Wales. Notification and Death-rates during 1945 amongst immunised and non-immunised children.

Progress of Immunisation.—The possibility of protecting children against diphtheria by inoculation of small doses of modified toxin to stimulate the production of anti-toxin has been known for several decades, and in 1922 the Ministry of Health issued a memorandum to local authorities on the Schick test for immunity and on methods of producing immunity. This was followed in 1932 by a memorandum on the Production of Artificial Immunity against Diphtheria, but no appreciable effort was made to raise the immunity of healthy children to the disease in sufficient numbers to affect the general incidence of diphtheria. In the county of Lancashire, for example, only 33 districts out of 109 had definite schemes of diphtheria prevention even in 1938, and during that year some 11,000 children were immunised out of a populaton of some 400,000. By that time the possibility of reducing diphtheria incidence to small proportions in a population by large-scale immunisation of children had been demonstrated in several cities in Canada and the United States.

Late in 1940 the Ministry of Health offered free prophylaxis, and by 1942 most local authorities had initiated schemes for systematic immunisation of the children in their areas on a voluntary basis. Annual and half-yearly returns of the numbers of children under 15 who had been immunised were made to the Ministry of Health, but prior to 1945 these returns gave no details of age, and it was not possible to ascertain the numbers who, since immunisation, had died of causes other than diphtheria, reached the age of 15, or removed to other areas. In these circumstances, whilst rough estimates could be made of the proportion of all children under 15 who had been immunised under the local authorities' schemes in England and Wales as a whole by the end of each year, only in a few areas were sufficient details of ages published to make it possible to ascertain the position with accuracy. As an illustration of the progress made, in the administrative county of Lancashire* at the end of 1941 it was known that in at least 44 out of 109 districts 50 per cent. or more of the children aged 5–15 had been immunised ; and by 1946 most of the districts had surpassed this degree of immunisation of their school children. It was estimated that at the end of 1945, 70 per cent. of all children aged 5–15 in the administrative county had been immunised at some time, and 47½ per cent. of all children aged 0–5.

For the year 1945 more detailed returns were asked for by the Ministry of Health, giving the numbers of children aged 0, 1, 2, 3, 4, 5–10 and 10–15 at the end of the year who were known to have been immunised during 1940–45 and were believed to be still resident in the area. By deducting these numbers from the total populations at each age, as estimated by the Registrar General, it was possible to estimate the numbers of children of each age-group in the area who had not been immunised under the local authority's scheme. Some of them would have been immunised privately by their family physicians, but the numbers must have been comparatively small and their inclusion amongst the non-immunised population (whilst counting them amongst the immunised totals of notifications and deaths) tends to overstate the rates amongst the immunised.

The numbers of immunised children who during 1945 were notified as having diphtheria, and for whom the diagnosis was not subsequently amended, and the numbers who died of diphtheria during the year, were also stated in the return. By deducting these from the totals of amended notifications and deaths in 1945 at each age which were known by the General Register Office, it was possible to obtain rates of incidence and mortality at each age amongst children who had been immunised and amongst those who had not. By this means the tables which follow were compiled.

Children who were between four and five years of age at the end of 1945 were those born in the year 1941, and the appropriate years of birth were indicated under each age-group on the form. In order to make the return of immunised children aged 4–5 in the population at the end of 1945, it was necessary for the local authority to take out of its register of immunisations all children born in 1941 who were still resident in the area. If, since the immunisation was performed, and the child's name entered in the local register, the child had died whilst still resident in the area, that child should have been removed from the live register, but in some cases this was probably not done. A greater source of error in local statistics was the non-removal from the register of children who had left the area, since such sources of information as existed

---

* F. Hall, "Diphtheria Immunisation in Lancashire". *Medical Officer.* June 5, 1948, p. 240.

as to removals out of the area were probably not utilised by most local authorities. In normal conditions the number of immunised children moving out of an area would be roughly balanced by others moving in who had been immunised in other areas, and whose names would not appear in the immunisation register of the new area. In the case of reception areas to which large numbers of children were sent, many of whom were immunised whilst resident there and later returned to their home towns, the losses of immunised children from the area would not be balanced in that way, with the result that the immunised totals returned were excessive. That this occurred in some reception areas was evident from the fact that the totals returned as immunised at some ages exceeded the total estimated resident population of those ages. The children returning to their home towns after immunisation in reception areas would not usually appear in the numbers of immunised children of those towns, and there was probably no appreciable overstatement of the national totals by such duplication. Evacuation areas such as London did not, however, include in their returns for 1945 the full numbers of immunised children in their resident population at the end of that year for the reasons given above, and an artificial excess in the proportions in reception areas would be offset by corresponding deficiencies in evacuation areas. This must be borne in mind when considering the statistics of London particularly.

From a few local authorities no returns were received, but the areas were mostly small and whatever assumption is made regarding them the effect on the aggregate and national rates is not important. Several counties of Wales did not distinguish urban from rural districts and these had to be omitted from the tables where such separation was necessary. Returns from some areas were defective by reason of insertion of only the immunisations performed during 1945, by failure to provide the age grouping and by other omissions or faults. The returns from the 1,471 areas were first of all separated into the following categories after being scrutinised and checked against the General Register Office records of populations, notifications and deaths :—

I. Returns of immunisation, notifications and deaths apparently valid.

II. Returns of immunisation apparently valid, but not those of notifications and deaths.

III. Returns of immunisation defective :—

(*a*) Proportion immunised at one or more ages exceeded 100 per cent.

(*b*) Otherwise defective (*e.g.*, no age grouping).

IV. No returns.

Table A gives for each county aggregate of county boroughs, of other urban districts and of rural districts, in England and in such counties of Wales as could be so divided,* and for the national aggregates of each type of area, the following :—

(1) Groups I and II areas—number of areas ; estimated populations and numbers immunised at ages 0–15 ; percentages immunised at 0, 1, 2, 3, 4, 5–10, 10–15, 1–5 and 5–15.

(2) Groups III and IV areas (shown in last three columns of the table)—number of areas ; estimated populations and numbers entered on returns as immunised at ages 0–15.

---

* *See* Note below Table A.

The county boroughs of England gave satisfactory returns as to numbers immunised in 71 instances, and their total population at ages under 15 was 2,554 thousands at the end of 1945, of whom 1,596 thousands were stated to have been immunised, a proportion of 62½ per cent. The percentages in the first five years of age were 8, 49, 54, 58, 65 ; and at 1–5, 5–10, 10–15 they were 56, 71, 73 respectively. The remaining eight county boroughs, which did not give sufficient information, had 168 thousand children aged 0–15, of whom at least 77 thousands were stated to have been immunised. Inclusion of these with the satisfactory group would reduce the percentage at 0–15 by about one unit.

The four Welsh county boroughs gave higher proportions, viz., 7, 52, 62, 64, 79 per cent. for the first five years of age, and 63, 76, 86 for ages 1–5, 5–10, 10–15.

London, on the other hand, returned smaller proportions, except at age three, than the county boroughs, viz., 2, 45, 50, 60, 60 per cent. at successive ages up to five, and 53, 60, 50 per cent. for ages 1–5, 5–10, 10–15. The difference is pronounced at the school ages, and the percentages at 5–10 and 10–15 cannot be taken as expressing the true position amongst London children at the end of 1945, owing to the error, explained above, arising from the return of evacuated children to London who had been immunised in reception areas. The percentages for the county boroughs of Wales, and for some of the English and Welsh counties are probably inflated to some extent for the same reason that the London proportions are depressed.

Other urban districts of England gave returns considered satisfactory in 609 instances, with 2,989 thousand children under 15, of whom 1,849 thousands were stated to have been immunised. The resulting proportion of 62 per cent. at ages 0–15 is almost the same as for the county boroughs. The percentages were 3, 52, 58, 62, 68 in the first five years of age, and 59, 70, 70 for ages 1–5, 5–10, 10–15, being rather higher at pre-school ages and lower at 10–15 than in the larger towns. There were 167 urban districts giving no returns or insufficient information, with 426 thousand children under 15, of whom at least 166 thousand were stated to have been immunised. Inclusion of these with the satisfactory group would reduce the percentage at 0–15 by about three units.

Welsh urban districts, of which a number were reception areas, gave higher proportions, viz., 5, 56, 69, 71, 85 at successive ages up to five, and 69, 77, 85 for ages 1–5, 5–10, 10–15.

Rural districts of England gave returns considered satisfactory in 276 instances, with 1,110 thousand children under 15, of whom 720 thousands were stated to have been immunised. The resulting proportion of 65 per cent. at ages 0–15 compared with about 62 for the towns. The percentages were 3, 47, 58, 61, 69 in the first five years of age, and 58, 73, 77 for ages 1–5, 5–10, 10–15. The Welsh rural areas gave very similar percentages. There were 143 rural districts in England giving no returns, or insufficient information, with 459 thousand children under 15, of whom at least 206 thousands were stated to have been immunised. Inclusion of these with the satisfactory group would reduce the percentage at 0–15 by about six units.

Table A.—Proportions of Children of Various Ages on 31st December, 1945, who had been Immunised against Diphtheria in each County and class of area, according to the Returns made by Local Authorities to the Ministry of Health, with distinction of areas not making valid returns.

County aggregates of areas	Areas rendering valid returns of numbers of children immunised												Areas not rendering valid returns		
	Number of areas	Population under 15 at end of 1945	Total under 15 immunised	Per cent. of population immunised at each age :–									Number of areas	Population under 15 at end of 1945	Total under 15 immunised
				0–	1–	2–	3–	4–	5–10	10–15	1–5	5–15			
England															
County Boroughs of															
Berkshire	1	24,624	15,693	0	36	48	50	64	73	84	49	78	—	—	—
Cheshire	4	88,843	54,706	3	42	48	50	76	70	75	53	72	—	—	—
Cumberland	1	14,446	10,143	1	53	71	77	86	84	71	71	78	—	—	—
Derbyshire	1	30,171	19,432	0	35	56	57	63	74	82	52	78	—	—	—
Devonshire	2	53,379	28,879	0	36	46	47	48	70	63	44	67	—	—	—
Durham	5	130,039	70,015	1	51	54	54	62	62	56	55	59	—	—	—
Essex	2	44,131	16,917	0	33	37	39	43	46	41	38	44	1	32,659	1,765
Gloucester	2	100,578	54,127	12	45	48	51	50	59	65	48	62	—	—	—
Kent	1	4,415	2,972	11	40	38	43	63	77	90	45	84	—	—	—
Lancashire	17	655,742	411,712	13	45	52	57	64	68	77	54	72	—	—	—
Leicester	1	58,694	39,563	0	44	65	68	69	80	78	61	79	—	—	—
Lincoln Lindsey	2	34,806	19,055	1	31	38	40	50	71	66	39	69	—	—	—
Norfolk	1	8,373	3,623	1	36	46	36	48	52	47	41	50	1	24,067	10,994
Northampton	1	21,601	11,709	0	43	54	56	53	63	62	51	62	—	—	—
Northumberland	2	79,076	52,215	0	42	54	56	64	71	86	54	78	—	—	—
Nottingham	1	64,632	41,200	0	45	54	55	56	74	80	52	77	—	—	—
Oxfordshire	1	22,197	14,745	0	54	72	67	78	77	71	67	74	—	—	—
Somerset	1	14,707	7,226	1	40	35	31	51	67	53	39	60	—	—	—
Southampton	2	80,570	54,085	1	40	45	48	54	85	89	46	87	1	24,300	1,453
Stafford	6	174,787	114,597	1	36	52	62	70	78	79	54	78	—	—	—
Suffolk East	1	20,862	13,109	0	56	65	72	73	73	66	66	70	—	—	—
Surrey	1	42,823	22,336	0	65	39	62	67	59	53	52	56	—	—	—
Sussex East	—	—	—	—	—	—	—	—	—	—	—	—	3	45,300	40,930
Warwick	2	286,187	215,238	18	80	73	71	80	89	76	76	83	—	—	—
Worcester	2	28,370	16,153	2	31	44	50	60	72	65	45	69	—	—	—
Yorkshire E.R.	1	65,547	30,225	2	42	48	42	44	56	48	44	52	—	—	—
Yorkshire N.R.	1	35,190	20,903	0	37	46	53	58	69	72	48	71	—	—	—
Yorkshire W.R.	9	368,991	235,342	10	50	56	60	71	72	72	58	72	2	41,909	21,830
Total	**71**	**2,553,781**	**1,595,920**	**8**	**49**	**54**	**58**	**65**	**71**	**73**	**56**	**72**	**8**	**168,235**	**76,972**
London Admin. County	26	446,378	221,954	2	45	50	60	60	60	50	53	55	3	56,779	4,170

Table A—(*contd.*)

County aggregates of areas	Areas rendering valid returns of numbers of children immunised												Areas not rendering valid returns		
	Number of areas	Population under 15 at end of 1945	Total under 15 immunised	Per cent. of population immunised at each age :—									Number of areas	Population under 15 at end of 1945	Total under 15 immunised
				0–	1–	2–	3–	4–	5–10	10–15	1–5	5–15			
Urban Districts of															
Bedford	8	44,845	27,858	2	53	53	43	62	69	80	52	74	—	—	—
Berkshire	1	4,464	3,386	1	62	77	82	91	91	75	77	83	6	15,496	15,943
Buckingham	12	40,223	26,260	5	34	47	55	65	69	90	49	79	—	—	—
Cambridge	—	—	—	—	—	—	—	—	—	—	—	—	1	15,318	10,485
Cheshire	30	119,746	75,660	4	47	58	60	67	70	75	57	73	3	10,024	3,088
Cornwall	9	16,536	12,271	3	59	81	75	89	79	83	75	81	11	22,314	14,057
Cumberland	6	19,563	14,047	1	38	51	59	74	81	91	54	86	—	—	—
Derby	13	59,813	38,694	3	48	55	59	64	75	76	56	76	7	18,267	13,188
Devonshire	15	35,869	23,668	4	54	55	58	74	71	76	60	73	16	15,921	3,922
Dorset	12	35,156	28,388	3	58	73	84	81	89	97	73	93	—	—	—
Durham	22	134,322	80,165	1	45	52	53	63	66	72	52	69	3	11,638	5,405
Ely	3	8,951	2,988	5	45	37	48	77	33	25	51	29	2	3,159	561
Essex	27	240,271	146,302	4	56	55	66	62	69	67	59	68	5	12,999	10,707
Gloucester	8	29,562	19,153	4	51	63	55	63	85	67	58	76	—	—	—
Hereford	5	4,064	2,754	3	52	44	59	88	73	84	60	78	1	6,336	4,460
Hertford	16	64,079	49,910	4	64	66	61	100	78	100	46	89	7	24,191	2,923
Huntingdon	2	2,822	1,722	2	17	88	58	27	61	88	48	74	4	3,868	2,517
Kent	35	212,621	132,504	2	53	61	69	74	71	67	64	69	3	10,029	1,857
Lancashire	84	329,479	134,521	3	30	36	40	46	47	46	37	47	10	18,441	6,134
Leicester	10	35,775	27,237	9	63	78	74	81	84	88	73	86	—	—	—
Lincs. Holland	—	—	—	—	—	—	—	—	—	—	—	—	2	8,840	6,474
Lincs. Kesteven	2	7,301	4,274	1	64	75	81	97	56	58	78	57	2	2,969	1,029
Lincs. Lindsey	7	23,320	14,674	5	71	48	41	64	75	70	56	73	5	8,760	4,010
Middlesex	23	398,614	248,227	2	59	63	74	76	71	63	67	67	3	25,386	5,720
Norfolk	6	9,730	6,298	1	53	49	54	62	78	77	54	77	6	5,320	2,331
Northampton	12	26,525	19,751	2	49	68	75	91	88	85	69	86	1	525	—
Northumberland	15	69,611	48,824	6	59	68	67	69	72	87	66	79	1	1,859	72
Nottingham	13	73,514	54,330	3	61	68	65	77	86	86	67	64	1	7,566	—
Oxford	7	10,668	8,732	7	71	80	87	97	89	90	83	90	—	—	—
Peterborough	1	10,653	6,090	1	45	49	54	56	65	68	51	67	—	—	—
Rutland	—	—	—	—	—	—	—	—	—	—	—	—	1	880	668
Shropshire	15	31,039	22,022	2	44	64	67	75	83	82	61	83	—	—	—
Somerset	10	28,417	19,746	7	72	74	57	72	78	76	69	77	10	17,753	14,323
Southampton	7	40,837	27,715	6	83	61	68	75	77	70	72	74	8	29,433	12,121
Stafford	18	122,293	83,497	9	53	62	65	67	77	79	62	78	7	25,477	8,425
Suffolk East	10	16,155	9,598	4	61	59	62	73	69	61	64	65	2	1,185	1,233
Suffolk West	5	8,599	6,142	2	53	63	71	84	86	78	66	82	—	—	—
Surrey	28	222,422	144,960	2	51	63	68	73	76	71	63	73	—	—	—

Sussex East	10	29,270	17,669	1	58	68	72	85	67	58	70	63	—	—	—
Sussex West	8	30,543	19,527	0	35	61	52	65	73	81	52	77	—	—	—
Warwick	7	57,366	34,097	1	44	52	46	54	68	77	49	73	2	8,614	1,815
Westmorland	4	6,847	3,925	0	46	63	52	65	59	67	56	63	—	—	—
Wight, Isle of	5	14,026	8,276	0	28	40	51	56	72	78	43	75	—	—	—
Wiltshire	10	20,907	15,095	0	43	62	72	86	83	86	64	85	3	16,143	1,014
Worcester	11	60,007	33,319	3	43	51	53	58	66	62	51	64	—	—	—
Yorkshire E.R.	4	16,372	9,030	1	52	44	51	65	73	51	53	62	5	4,288	1,219
Yorkshire N.R.	9	38,554	26,028	4	58	54	68	78	75	78	63	76	5	5,486	862
Yorkshire W.R.	44	177,487	109,172	8	60	65	62	69	68	65	64	67	24	67,153	9,208
Total	**609**	**2,989,238**	**1,848,506**	**3**	**52**	**58**	**62**	**68**	**70**	**70**	**59**	**70**	**167**	**425,638**	**165,771**
Rural Districts of															
Bedford	4	19,438	13,452	15	47	64	77	72	80	75	64	77	—	—	—
Berkshire	3	16,299	9,227	4	54	68	72	81	56	39	68	48	8	24,271	23,888
Buckingham	5	23,950	15,682	6	63	82	94	91	56	71	81	65	3	15,030	7,795
Cambridge	—	—	—	—	—	—	—	—	—	—	—	—	3	15,970	15,549
Cheshire	9	35,155	21,237	1	40	48	52	58	70	72	49	71	1	599	40
Cornwall	3	12,825	9,117	2	46	58	53	61	83	89	54	86	8	19,805	8,188
Cumberland	7	28,976	21,460	1	35	57	66	81	85	92	58	89	—	—	—
Derbyshire	5	49,311	30,474	2	48	56	56	65	69	73	56	71	4	21,879	12,651
Devonshire	10	35,703	23,447	4	49	56	59	65	70	82	57	76	7	15,227	980
Dorset	9	21,645	15,515	2	37	59	73	88	82	86	62	84	—	—	—
Durham	7	59,041	38,956	2	58	48	54	67	75	78	57	76	3	7,639	5,664
Ely, Isle of	2	4,308	1,162	2	31	24	35	60	31	20	37	25	2	3,829	1,721
Essex	11	45,441	30,750	2	43	54	62	73	77	82	57	80	—	—	—
Gloucester	15	62,198	39,907	5	42	55	56	64	80	74	53	76	—	—	—
Hereford	8	17,350	9,789	1	28	38	42	63	61	77	42	69	—	—	—
Hertford	5	13,218	9,018	3	46	52	55	67	74	90	54	82	6	19,120	3,415
Huntingdon	4	7,145	4,290	3	28	48	52	64	68	78	47	73	—	—	—
Kent	16	59,160	39,291	3	68	58	55	67	74	77	62	75	2	3,550	1,594
Lancashire	12	38,804	21,584	4	51	46	46	53	64	65	49	65	3	19,536	2,710
Leicester	7	27,802	18,259	5	46	67	63	71	75	76	61	75	2	10,828	9,668
Lincs. Holland	3	14,699	10,334	3	57	74	79	77	71	85	71	54	—	—	—
Lincs. Kesteven	—	—	—	—	—	—	—	—	—	—	—	—	4	15,710	4,600
Lincs. Lindsey	4	13,406	10,100	3	72	92	83	81	87	74	82	81	5	19,154	3,399
Norfolk	10	45,365	28,961	2	36	50	55	65	73	82	50	77	5	17,215	1,838
Northampton	7	22,567	16,996	1	43	60	66	67	79	97	58	93	1	3,613	—
Northumberland	6	14,436	11,465	7	62	73	72	71	75	88	69	82	5	6,224	2,701
Nottingham	5	24,559	17,429	0	48	59	66	64	79	91	59	85	2	9,071	7,456
Oxford	1	3,163	2,485	4	51	63	68	76	92	97	63	95	5	22,237	20,070
Peterborough	2	1,904	1,154	0	35	48	44	49	65	85	44	75	—	—	—
Rutland	—	—	—	—	—	—	—	—	—	—	—	—	3	3,990	2,722
Shropshire	8	23,415	17,656	0	45	76	80	85	82	90	70	86	2	7,415	6,489
Somerset	14	49,959	31,295	1	49	63	64	66	65	76	60	82	2	3,801	59
Southampton	5	30,690	22,476	2	48	71	80	88	85	80	71	83	6	23,380	16,618
Stafford	8	39,563	24,706	4	37	56	59	70	74	72	54	73	2	5,447	—
Suffolk East	3	13,186	9,146	0	44	53	60	73	81	84	57	83	4	12,634	7,189
Suffolk West	5	13,912	8,596	4	39	58	63	64	76	68	55	72	1	1,698	1,704
Surrey	4	23,467	11,430	3	43	50	58	62	56	48	53	52	1	6,383	1,402

Table A—(*contd.*)

County aggregates of areas	Areas rendering valid returns of numbers of children immunised												Areas not rendering valid returns		
	Number of areas	Population under 15 at end of 1945	Total under 15 immunised	Per cent. of population immunised at each age :—									Number of areas	Population under 15 at end of 1945	Total under 15 immunised
				0–	1–	2–	3–	4–	5–10	10–15	1–5	5–15			
England—*contd.*															
Rural Districts of—*contd.*															
Sussex East	4	21,723	16,459	2	55	83	82	89	90	87	76	89	1	8,057	8,019
Sussex West	6	29,751	20,942	0	36	63	62	74	83	85	58	84	—	—	—
Warwick	3	10,614	6,613	2	45	54	71	50	52	94	55	73	6	25,476	7,401
Westmorland	2	7,842	4,672	0	34	59	56	53	59	80	50	69	—	—	—
Wight, Isle of	1	3,143	1,994	0	31	48	51	69	77	81	48	79	—	—	—
Wiltshire	11	36,854	23,935	1	30	52	63	70	72	78	53	75	1	2,256	2,409
Worcester	6	21,310	10,124	11	28	35	46	51	57	55	39	56	2	3,410	30
Yorkshire E.R.	3	6,455	3,594	13	46	19	49	54	69	63	41	66	5	16,905	2,099
Yorkshire N.R.	5	13,913	9,102	10	39	48	54	69	74	81	51	78	15	19,347	4,579
Yorkshire W.R.	8	46,560	26,149	12	67	51	43	54	65	59	54	62	13	48,220	11,785
Total	**276**	**1,110,225**	**720,430**	**3**	**47**	**58**	**61**	**69**	**73**	**77**	**58**	**75**	**143**	**458,926**	**206,432**
ENGLAND TOTAL	**982**	**7,099,622**	**4,386,810**	**5**	**49**	**56**	**60**	**67**	**70**	**71**	**57**	**70**	**321**	**1,109,578**	**453,345**
Wales															
County Boroughs of															
Glamorgan	3	97,313	69,559	8	51	60	64	81	76	89	63	82	—	—	—
Monmouth	1	22,998	15,536	0	57	67	63	71	78	75	64	77	—	—	—
Total	**4**	**120,311**	**85,095**	**7**	**52**	**62**	**64**	**79**	**76**	**86**	**63**	**81**	**—**	**—**	**—**
Urban Districts of															
Carmarthen	7	13,289	10,043	2	57	72	73	88	86	83	71	84	2	1,751	1,251
Denbigh	6	15,164	10,686	12	52	60	68	75	81	77	63	79	1	656	—
Flint	4	10,801	8,385	5	62	76	81	92	85	86	77	86	3	5,059	4,437
Glamorgan	17	126,712	90,040	4	55	67	70	83	75	84	68	80	—	—	—
Merioneth	2	1,222	728	14	26	44	46	76	60	78	46	69	3	2,878	1,741
Monmouth	14	59,190	43,882	5	55	74	72	91	77	88	72	83	4	7,610	2,401
Pembroke	5	8,720	6,548	5	67	73	80	88	82	83	76	82	2	1,260	1,154
Total	**55**	**235,098**	**170,312**	**5**	**56**	**69**	**71**	**85**	**77**	**85**	**69**	**81**	**15**	**19,214**	**10,984**

Rural Districts of															
Brecknock	2	2,761	1,596	6	41	41	58	76	53	79	53	66	—	—	—
Carmarthen	3	14,423	9,540	1	44	61	59	66	73	81	57	77	1	7,517	—
Denbigh	1	14,653	11,069										4	6,297	5,958
Flint	4	15,183	11,761	38	49	58	67	81	86	91	63	88	—	—	—
Glamorgan	7	45,195	29,001	1	43	60	62	70	74	73	58	74	—	—	—
Merioneth	2	3,354	1,894	—	—	—	—	—	—	—	—	—	2	1,726	922
Monmouth	5	9,733	5,995	1	30	58	54	76	68	75	53	72	—	—	—
Pembroke	—	—	—	—	—	—	—	—	—	—	—	—	4	10,590	9,938
Total	**24**	**105,302**	**70,856**	**6**	**45**	**60**	**62**	**73**	**74**	**81**	**59**	**77**	**11**	**26,130**	**16,818**
WALES TOTAL*	**83**	**460,711**	**326,263**	**6**	**52**	**65**	**67**	**81**	**76**	**84**	**65**	**80**	**85**	**117,443**	**77,484**
ENGLAND & WALES TOTAL*	**1,065**	**7,560,333**	**4,713,073**	**5**	**50**	**56**	**61**	**68**	**71**	**71**	**58**	**71**	**406**	**1,227,021**	**530,829**

* Includes the counties of Wales whose returns did not allow a division into urban and rural.

Table B.—Numbers and Proportions of Children of Various Ages who on 31st December, 1945, had been immunised against Diphtheria, in English and Welsh density aggregates, excluding areas which did not render a valid return.

		0–	1–	2–	3–	4–	5–10	10–15
Population estimated—								
ENGLAND.	London admin. county ..	39,697	37,325	33,873	32,239	28,315	138,969	135,960
	County boroughs	194,569	206,269	187,196	178,168	156,467	824,476	806,636
	Other urban districts ..	220,879	243,900	221,345	210,666	185,014	964,147	943,287
	Rural districts	79,463	90,823	82,433	78,459	68,897	358,958	351,192
WALES.	County boroughs	8,576	9,549	8,665	8,248	7,243	39,442	38,588
	Other urban districts ..	16,233	18,750	17,016	16,197	14,224	77,174	75,504
	Rural districts	7,220	8,565	7,771	7,398	6,500	34,295	33,553
All areas with valid returns		**566,637**	**615,181**	**558,299**	**531,375**	**466,660**	**2,437,461**	**2,384,720**
Number immunised—								
ENGLAND.	London admin. county ..	915	16,605	16,934	19,373	16,860	82,712	68,555
	County boroughs	15,031	100,435	101,199	102,580	101,997	588,948	585,730
	Other urban districts ..	7,566	125,705	127,940	130,165	126,294	674,147	656,689
	Rural districts	2,656	42,841	47,374	48,041	47,268	262,720	269,530
WALES.	County boroughs	575	5,000	5,340	5,247	5,727	30,000	33,206
	Other urban districts ..	747	10,467	11,790	11,572	12,143	59,619	63,974
	Rural districts	441	3,868	4,670	4,607	4,710	25,457	27,103
All areas with valid returns		**27,931**	**304,921**	**315,247**	**321,585**	**314,999**	**1,723,603**	**1,704,787**
Percentage immunised—								
ENGLAND.	London admin. county ..	2·3	44·5	50·0	60·1	59·5	59·5	50·4
	County boroughs	7·7	48·7	54·1	57·6	65·2	71·4	72·6
	Other urban districts ..	3·4	51·5	57·8	61·8	68·3	69·9	69·6
	Rural districts	3·3	47·2	57·5	61·2	68·6	73·2	76·7
WALES.	County boroughs	6·7	52·4	61·6	63·6	79·1	76·1	86·1
	Other urban districts ..	4·6	55·8	69·3	71·4	85·4	77·3	84·7
	Rural districts	6·1	45·2	60·1	62·3	72·5	74·2	80·8
All areas with valid returns		**4·9**	**49·6**	**56·5**	**60·5**	**67·5**	**70·7**	**71·5**

Table B gives for the national urban and rural aggregates of areas with satisfactory returns, in England and in Wales separately, and for the total of all such areas, the details at each age of populations and numbers immunised on which the percentages of Table A are based. For reasons stated above, it seems probable that the London percentages are below the true figures for children aged 5–15, whilst those of English rural areas, and of each group of Welsh areas are rather too high. If 47,000 children of those ages had returned to London after being immunised in reception areas without their transfer being recorded in the returns, the London percentages would be raised to equality with the English county boroughs; and if those children had been immunised in the English rural districts and in Wales the compensating reduction in the percentages for those areas would amount to about five per cent. There is no certain indication, therefore, that the percentages immunised differed to any important extent according to the type of area.

Owing to omission from Table B of all areas from which no return, or a defective return, was received, the percentages may not truly represent the position in the population as a whole, but it is possible to calculate the limits between which the percentages for the whole population lie. The limiting assumptions regarding the proportions immunised in the excluded areas are that (*a*) no children had been immunised who did not figure in the returns actually received, or else (*b*) the proportions immunised in the residual areas of each type were the same as in the corresponding group of areas giving satisfactory returns. On the first assumption the total children known to have been immunised as shown in the last column of Table A can be distributed by age in the same way as the children of the corresponding aggregate of areas in the left-hand part of the

table. On the second assumption the percentages immunised in the whole population of each aggregate at each age will be the same, or derived in the same way, as the figures in the left-hand part of Table A or in Table B. The resulting percentages on these two assumptions in the national aggregates of areas are shown below.

		0–	1–	2–	3–	4–	5–10	10–15	Under 15
London admin. county	(*a*)	2·8	43·1	45·1	52·7	51·9	53·2	44·8	44·9
	(*b*)	2·3	44·5	50·0	60·1	59·5	59·5	50·4	49·7
County boroughs ..	(*a*)	7·8	49·5	54·2	57·8	65·1	70·2	71·5	61·9
	(*b*)	7·7	48·9	54·4	57·8	65·8	71·6	73·2	62·9
Other urban districts ..	(*a*)	3·8	51·7	56·8	60·2	67·4	66·9	67·0	59·8
	(*b*)	3·5	51·8	58·6	62·5	69·5	70·5	70·7	62·6
Rural districts	(*a*)	3·7	47·0	55·8	58·7	66·2	66·0	68·9	59·7
	(*b*)	3·6	47·0	57·7	61·3	68·9	73·3	77·1	65·1
All areas—									
England	(*a*)	5·0	49·4	54·5	58·1	64·6	66·5	66·6	59·0
	(*b*)	4·9	49·4	55·9	60·1	66·7	70·3	70·7	61·8
Wales	(*a*)	5·8	51·9	64·6	67·2	80·7	74·7	83·3	70·0
	(*b*)	5·5	52·4	65·2	67·3	80·7	76·3	84·2	70·8
England and Wales ..	(*a*)	**5·1**	**49·5**	**55·1**	**58·7**	**65·5**	**67·0**	**67·6**	**59·6**
	(*b*)	**4·9**	**49·6**	**56·5**	**60·5**	**67·5**	**70·7**	**71·5**	**62·3**

At all ages under 15 the proportion of children who had been immunised in the population at the end of 1945 lay between 60 and 62 per cent. At ages under one year 5 per cent. had been immunised, but in the county boroughs the proportion was about 8 per cent. At 1–2 years 50 per cent. had been immunised; at 2–3 years about 55 per cent.; at 3–4 years about 60 per cent.; and at 4–5 years 66 or 67 per cent. At ages 5–10 and 10–15 the proportion lay between 67 and 71 per cent., according to what assumption is made regarding the missing and unsatisfactory returns. Allowing for probable underestimation of the London proportions and slight complementary inflation of the rural and Welsh figures as mentioned above, the various aggregates showed no important differences.

Notification and Death-rates amongst Immunised and non-Immunised Children in 1945.—In the returns rendered by local authorities to the Ministry of Health the numbers of children known to have been immunised who were notified as suffering from diphtheria during 1945 (the diagnosis not having been subsequently amended), and the numbers of resident children known to have been immunised who died of diphtheria during 1945, were asked for at ages 0–, 1–, 2–, 3–, 4–, 5-10 and 10–15. From some areas no returns were received, and for others the detail of age was not given, but complete analysis was possible for areas having in all 4,548,402 immunised children under 15 at the end of 1945.* The numbers of corrected notifications amongst all children of the

* This total is rather smaller than the total of 4,713,073 in Table A, since some returns were complete as regards immunisation but not as regards notifications amongst the immunised.

various ages was known from the quarterly returns to the Registrar General and the deaths from diphtheria amongst all children were known from death registrations. It was possible, therefore, to obtain the notifications and deaths of non-immunised children by subtraction.

Table C gives for England and Wales, for aggregates of county boroughs, other urban and rural districts in England and for London and Wales separately, the numbers of diphtheria notifications and deaths during 1945 of children aged 0–, 1–, 3–, 5–, 10–15 who had been immunised and who had not been immunised, and the rates in the respective populations at those ages and also at 1–5, 5–15 and 0–15. In this table only those areas are included whose returns were satisfactory with regard to all the items necessary for calculation of such rates. The areas excluded had a total population under 15 years of age of 1,489,005, and the numbers of corrected notifications and deaths must have been the differences between the totals in Table C, namely 11,053 and 506, and the England and Wales totals for all areas, namely 12,690 and 584. The notification rate at ages 0–15 in the excluded areas was therefore 1,637/1,489,005 or 110 per 100,000, whilst that of the included areas was 11,053/7,298,349 or 151 per 100,000. The death-rate at 0–15 in the excluded areas was 78/1,489,005 or 52 per million, and that of the included areas was 506/7,298,349 or 69 per million. The excluded areas contained few large towns and the average rates would be lower in consequence. There is no reason to suppose that any bias was produced in the rates of Table C by the necessary exclusion of these areas.

The ratios between the notification rates amongst non-immunised and immunised children at successive ages in the various aggregates of areas are shown below.

	0–	1–	3–	5–10	10–15
England					
County boroughs ..	0·6	5·6	5·5	4·6	4·2
London admin. county ..	—	10·6	5·6	4·4	1·9
Other urban districts ..	0·8	6·9	6·0	3·1	2·6
Rural districts	—	5·6	5·7	3·6	3·6
Wales					
All types of area.. ..	—	0·7	10·5	7·3	12·6
England and Wales	**0·7**	**6·2**	**6·1**	**4·0**	**3·5**

In the first year of life there were 12 notifications amongst 27,228 immunised children, giving a rate above that for the non-immunised, though not significantly so. The explanation may be that immunisation at that early age was often done because a brother or sister had developed diphtheria, and in most other instances was done near the end of the first year, immunity not having fully developed by the first birthday.

At ages between one and five the notification rate amongst the non-immunised children was six times as great as amongst the immunised; at 5–10 it was four times as great, and at 10–15 it was three and a half times as great. The higher ratios at 3–15 in Wales and the low ratio at 10–15 in London may be due in part to over- and under-estimation of the immunised populations for reasons already stated.

If the five ratios for England and Wales are weighted by the total populations at the five ages, the resulting ratio is 4 ·2 ; and if the 25 ratios in the table above are weighted by the corresponding populations the result is 4 ·3. The conclusion is that the risk to an immunised child of having diphtheria in 1945 was one-quarter of the risk to a non-immunised child of the same age.

The ratios between the death-rates amongst the non-immunised and immunised children at ages 1–5 and 5–15 were as follows:—

	1–5	5–15
England		
County boroughs	42	62
London admin. county ..	*	*
Other urban districts ..	55	16
Rural districts	9	21
Wales		
All types of area	21	34
England and Wales	**32**	**24**

* With no deaths amongst the immunised the ratios were indeterminate but large.

The risk to an immunised child of dying from diphtheria in 1945 was, at ages 1–5, less than one-thirtieth of the risk to a non-immunised child; and at ages 5–15 it was one-twenty-fourth.

Table C.—Comparative Rates of Diphtheria Notifications and Deaths in 1945, per 100,000 children who were returned as having been immunised and as not having been immunised before the end of 1945, at various ages in different classes of area in England, and in Wales as a whole.

	0–	1–	3–	5–	10–15	1–5	5–15	Under 15
ENGLAND and WALES								
Immunised								
Number of children	27,228	598,398	613,560	1,664,535	1,644,681	1,211,958	3,309,216	4,548,402
Number of notifications ..	12	141	391	1,968	1,238	532	3,206	3,750
Number of deaths	—	4	4	16	9	8	25	33
Rates :—								
Notified cases per 100,000	44	24	64	118	75	44	97	82
Deaths per million ..	—	7	7	10	5	7	8	7
Not immunised								
Number of children	522,085	533,228	349,044	688,995	656,595	882,272	1,345,590	2,749,947
Number of notifications ..	152	792	1,359	3,258	1,742	2,151	5,000	7,303
Number of deaths	14	94	104	209	52	198	261	473
Rates :—								
Notified cases per 100,000	29	149	389	473	265	244	372	266
Deaths per million ..	27	176	298	303	81	224	194	172
County Boroughs (England)								
Immunised								
Number of children	15,023	199,378	201,942	580,886	577,519	401,320	1,158,405	1,574,748
Number of notifications ..	10	76	185	868	507	261	1,375	1,646
Number of deaths	—	1	2	4	1	3	5	8
Rates :—								
Notified cases per 100,000	67	38	92	149	88	65	119	105
Deaths per million ..	—	5	10	7	2	7	4	5
Not immunised								
Number of children ..	176,969	188,392	127,851	232,068	217,844	316,243	449,912	943,124
Number of notifications ..	67	399	670	1,642	844	1,069	2,486	3,622
Number of deaths	5	48	46	89	23	94	112	211
Rates :—								
Notified cases per 100,000	37	212	507	678	369	338	528	384
Deaths per million ..	28	255	360	384	106	297	249	224

Table C—(*contd.*)

	0–	1–	3–	5–	10–15	1–5	5–15	Under 15
Urban Districts (England)								
Immunised								
Number of children	7,257	245,162	247,080	648,550	632,223	492,242	1,280,773	1,780,272
Number of notifications ..	2	42	130	777	514	172	1,291	1,465
Number of deaths	—	2	—	8	7	2	15	17
Rates :—								
Notified cases per 100,000	28	17	53	120	81	35	101	82
Deaths per million ..	—	8	—	12	11	4	12	11
Not immunised								
Number of children	205,108	201,805	133,057	277,974	274,254	334,862	552,228	1,092,198
Number of notifications ..	46	239	422	1,019	571	661	1,590	2,297
Number of deaths	6	37	37	85	21	74	106	186
Rates :—								
Notified cases per 100,000	22	118	317	367	208	197	288	210
Deaths per million ..	29	183	278	305	77	221	192	170
Rural Districts (England)								
Immunised								
Number of children	2,504	86,834	91,433	252,886	259,154	178,267	512,040	692,811
Number of notifications ..	—	12	37	182	133	49	315	364
Number of deaths	—	1	1	2	1	2	3	5
Rates :—								
Notified cases per 100,000	—	14	40	72	51	27	62	53
Deaths per million ..	—	12	11	8	4	11	6	7
Not immunised								
Number of children	73,547	78,838	49,471	90,660	76,959	128,309	167,619	369,475
Number of notifications ..	9	62	113	235	143	175	378	562
Number of deaths	1	4	8	19	2	12	21	34
Rates :—								
Notified cases per 100,000	12	79	228	259	186	136	226	152
Deaths per million ..	14	51	162	210	26	94	125	92
London Admin. County								
Immunised								
Number of children	841	29,442	32,914	76,936	61,577	62,356	138,513	201,710
Number of notifications ..	—	4	17	51	33	21	84	105
Number of deaths	—	—	—	—	—	—	—	—
Rates :—								
Notified cases per 100,000	—	14	52	66	54	34	61	52
Deaths per million ..	—	—	—	—	—	—	—	—
Not immunised								
Number of children	38,782	37,659	24,321	56,257	67,405	61,980	123,662	224,424
Number of notifications ..	16	56	71	163	70	127	233	376
Number of deaths	1	4	3	3	3	7	6	14
Rates :—								
Notified cases per 100,000	41	149	292	290	104	205	188	168
Deaths per million ..	26	106	123	53	45	113	49	60
Wales								
Immunised								
Number of children	1,603	37,582	40,191	105,277	114,208	77,773	219,485	298,861
Number of notifications ..	—	7	22	90	51	29	141	170
Number of deaths	—	—	1	2	—	1	2	3
Rates :—								
Notified cases per 100,000	—	19	55	85	45	37	64	57
Deaths per million ..	—	—	25	19	—	13	9	10
Not immunised								
Number of children	27,679	26,534	14,344	32,036	20,133	40,878	52,169	120,726
Number of notifications ..	14	36	83	199	114	119	313	446
Number of deaths	1	1	10	13	3	11	16	28
Rates :—								
Notified cases per 100,000	5	14	579	621	566	291	600	369
Deaths per million ..	36	38	697	406	149	269	306	232

APPENDIX B.—Government, Inter-Departmental and other Committees on which the Registrar-General was represented during the six years, 1940 to 19.45

Medical*

Berks, Bucks and Oxon Regional Hospitals Council,
Bureau of Health and Sickness Records, Advisory Sub-Committee on.

Cancer, British Empire Campaign,
Clinical Research, Committee on.

Causes of Death and Classification of Diseases, Joint.
U.S.A. Committee on.

Medical Research Council,
Classification of Diseases Sub-Committee.
Peptic Ulcer, Research Committee on.
Statistics Committee.

Ministry of Health,
Chief Medical Officer's weekly meeting.
Hospital Records, Sub-Committee on.
Rehabilitation Records Committee.

Official Statistics,
Consultative Committee on.

Population, Royal Commission on,
Biological and Medical Committee.

Radium Commission,
Statistics Committee of.

Royal College of Physicians,
Nomenclature of Diseases Committee.
Tuberculosis, Prophit Research Committee on.

Royal Society of Medicine,
Epidemiology and State Medicine Section Council.

Royal Statistical Society Council.

War Office,
Inter-Services Medical Statistics Panel.

* A list of the committees on non-medical subjects will be published in The Registrar-General's Statistical Review, Text, Vol. II Civil, for the six years, 1940–45.

DISEASES AND CAUSES OF DEATH

INDEX

to this volume and Part I (Medical) of the Statistical Reviews for years 1940–1945.

With the exception of those shown against the names of diseases and causes of death, the page numbers refer to tables where the particular cause of death is mentioned. The years 1943, 1944 and 1945, are combined under one page number wherever it is applicable to each; when two numbers are given, the italicised figure refers either to the first two years, or the last two years respectively. With a few exceptions, the years 1940 and 1941 are combined under one number.

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ALL CAUSES	2			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144, —	143	*147,* 146
All ages by sex, civilians (11 years) ..	—	9	8	8
total (from 1841) ..	—	3	2	2
total, civilian, non-civilian, 1940–45 ..	3	—	—	—
Area, age and sex	—	95	94	94
Area, age and sex (broad age-groups) ..	—	169	169	173
Centenarians, by age and sex, in regions, 1940–45	76	—	—	—
Children under 5 years	—	148	148	*152,* 151
Infants under 1 year : (11 years) ..	—	51	50	50
Ages : by regions and density aggregates, by sex and legitimacy, and by quarters	—	53	52	52
by sex and legitimacy, and by quarters, 1939–45	29	—	—	—
Area, age and sex	—	95	94	94
Each administrative area	—	56	55	55
Marital condition, age and sex.. ..	—	92	91	91
with deaths of unstated marital condition distributed proportionately	—	94	93	93
Month of occurrence and sex	—	152	152	*156,* 155
Occurrences, registrations, and cumulative deficiencies, by quarters, 1940–45	17	—	—	—
Quarterly, total, by sex (from 1841) ..	—	5	4	4
Death Rates :				
Ages by sex : (from 1838)	—	6	5	5
1921–30 and yearly 1938–45 ..	53	—	—	—
1931–45 (war operations excluded) ..	55	—	—	—
1940–45 rates per cent. of previous periods	57	—	—	—
over 15 years, 1931–35, 1936–39, 1943–45 and yearly 1940–45 ..	67	—	—	—
20–25 years (males), 1939, 1942, 1945	67	—	—	—
50–55, 55–65 years, various triennia 1931–45	72	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates—*contd.*				
Ages by sex—*contd.*				
65–70, 70+ years, various triennia 1931–45	73	—	—	—
50+ years, 1936–39, 1943–45 rates per cent. of 1931–35 rates; 1942, 1945 rates per cent. of 1936–39 ..	71	—	—	—
Sex ratios, 1841–1945	22	—	—	—
triennia 1931–45	21	—	—	—
15–50 years, 1931–45	68	—	—	—
All ages by sex: (11 years)	—	28	27	27
from 1841	—	3	2	2
in each administrative area	—	56	55	55
sex ratios (adjusted), from 1841 ..	—	3	2	2
"total" and crude, 1941–45 ..	4	—	—	—
Children 1–2, 2–5 years, by regions, etc., 1931–45	60	—	—	—
1–4 years, by sex, 1911–45	59	—	—	—
1–5 years, 1936–45	63	—	—	—
5–10, 10–15 years, by sex, 1936–45 ..	64	—	—	—
5–15 years, by regions, etc., 1940–45	66	—	—	—
Comparative Mortality Index, for sexes and persons (10 years)	—	40	39	39
Comparative Mortality Index, from 1841	—	3	2	2
Expectation of life at 50 and 65 years, 1871–1945	71	—	—	—
survivors to 5th year, 1871–1945	58	—	—	—
survivors to 15th year, 1871–1945	64	—	—	—
Infants under 1 year (11 years) ..	—	52	51	51
by ages, from 1881	31	—	—	—
each administrative area ..	—	56	55	55
from 1841, and by legitimacy from 1906	—	3	2	2
classes of area, 1911–45 ..	36	—	—	—
classes of area, by age, quinquennia 1926–45	37	—	—	—
illegitimate—legitimate ratios, by age, 1936–45	49	—	—	—
legitimacy (persons); age and sex, 1936–45	47	—	—	—
legitimacy, age, and sex, 1940–42, 1943–45	50	—	—	—
legitimacy, age, and sex; regions by age; each year 1940–45	38	—	—	—
quarterly, from 1871	30	—	—	—
regions and age	—	54	53	53
regions, etc., by sex, 1940–45 ..	34	—	—	—
regions 1936–45, with per cent. of England and Wales rates..	52	—	—	—
registered and related births, rates based on, 1939–45 ..	29	—	—	—
sex ratios, by age, 1936–45 ..	45	—	—	—
still-birth and neonatal combined rate, 1928–45	33	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates—*contd.*				
Occurrences and registrations, rates based on, 1940–45	18, 19	—	—	—
Quarterly : (from 1841)	—	5	4	4
quinquennia from 1851, each year from 1931, with ratio to annual rates ..	16	—	—	—
1939–45, based on mid-quarter populations ..	19	—	—	—
Standardized and crude, rates comparison, 1901–45	14	—	—	—
ABORTION (all forms) (140–141)	232			
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition, and outcome of pregnancy, yearly 1940–45	241	—	—	—
All ages (11 years)	—	22	21	21
All ages, with and without sepsis, yearly 1928–45	233	—	—	—
Death Rates :				
All ages (11 years)	—	37	36	36
All ages, with and without sepsis, yearly 1928–45	233	—	—	—
ABORTION, WITHOUT SEPSIS (141)	232			
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Ages : civilians	—	134	133	*136*, 135
All ages (11 years)	—	22	21	21
Area	—	261	260	264
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages related to estimated pregnancies, 1940–45	237	—	—	—
All ages (11 years)	—	37	36	36
ABORTION, (with Post-Abortive Infection) (140)	232			
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Ages : Civilians	—	134	133	*135*, 134
Non-civilians	—	—	146	*150*, 149
All ages (11 years)	—	22	21	21
Area	—	261	260	264
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages, related to estimated pregnancies, 1940–45	237	—	—	—
All ages (11 years)	—	37	36	36
by regions, etc., 1940–45 ..	243	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ABSCESS OF LUNG (114d)				
Deaths :				
Ages by sex : Civilians	—	129	129	*130,* 129
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	161	161	*165,* 164
Death Rates :				
All ages by sex (11 years)	—	35	34	34
ACCIDENTS, ABSORPTION OF POISONOUS GAS (178)	259			
Deaths :				
Ages by sex : Civilians, total	—	275	274	278
Civilians, occupational ..	—	277	276	280
Non-civilians	—	146	145	*149,* 148
In places of residence, various triennia 1931–45	260	—	—	—
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex ..	—	167	167	*171,* 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
ACCIDENTS, AGRICULTURAL AND FORESTRY (175)				
Deaths :				
Ages by sex : Civilians, total	—	275	273	277
Civilians, occupational ..	—	277	276	280
Non-civilians	—	—	—	*149,* 148
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171,* 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
ACCIDENTS, AIR TRANSPORT (173)	258			
Deaths :				
Ages by sex : Civilians, total	—	274	273	277
Civilians, occupational	—	277	276	280
Non-civilians	—	146	145	*149,* —
Yearly 1931–45	258	—	—	—
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171,* 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
ACCIDENTS, ANÆSTHETIC	271			
Deaths :				
Ages by sex: Civilians	—	143	142	145
Non-civilians	—	146	—	—
Yearly averages 1901–45	272	—	—	—
All ages by sex : (11 years)	—	27	26	26
by cause to which assigned, 1940–42, 1943–45 ..	278	—	—	—

	Text Volume	Part I for years 1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Status lymphaticus present, by age and sex, yearly 1940–45	272	—	—	—
Types of anæsthetic : by age and sex, 1940–45 ..	272	—	—	—
all ages by sex, 1928–45 ..	277	—	—	—
all ages, persons, triennia 1928–45	271	—	—	—
ACCIDENTS, ANIMALS (attack by venomous) **(194)**				
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Non-civilians	—	146	—	*149*, —
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172*, 171
ACCIDENTS, ANIMALS, INJURY BY (188)				
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Civilians, occupational ..	—	278	276	280
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex ..	—	168	168	*172*, 171
ACCIDENTS, ANIMALS, INJURY BY, IN FARMING, ETC. (175b)				
Deaths :				
Ages by sex : Civilians, occupational	—	277	276	280
Non-civilians	—	—	—	—, —, 148
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171*, 170
ACCIDENTS, ANIMALS, VENOMOUS (175, b a)				
Deaths :				
All ages by sex (11 years)	—	26	25	25
ACCIDENTS, BURNS (Conflagration excepted) **(181)**	259			
Deaths :				
Ages by sex : Civilians, total	—	275	274	278
Civilians, occupational ..	—	277	276	280
Non-civilians	—	146	145	*149*, 148
Non-occupational 1940–42, 1943–45 ..	260, 263	—	—	—
All ages by sex (11 years)	—	26	25	25
Children under 5 years	—	151	151	*155*, 154
Month of Occurrence and sex	—	167	167	*171*, 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
Children 1–5 years, by sex, 1936–45 ..	63	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ACCIDENTS, CATACLYSM (any cause of death) (187)				
Deaths :				
Ages by sex : Civilians, total	—	—, 276	—	279, —, —
Non-civilians	—	—	—	149, —, —
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	—, 168	—	172, —, —
ACCIDENTS, COLD, EXCESSIVE (190)				
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172*, 171
ACCIDENTS, CONFLAGRATION (180)	259			
Deaths :				
Ages by sex : Civilians, total	—	275	274	278
Civilians, occupational ..	—	277	276	—, *280*
Non-civilians	—	146	145	*149*, 148
In places of residence, various triennia 1931–45	260	—	—	—
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171*, 170
ACCIDENTS, DROWNING (183)	263			
Deaths :				
Ages by sex : Civilians, total	—	276	274	278
Civilians, occupational ..	—	277	276	280, —, 280
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	26	25	25
Children under 5 years	—	151	151	*155*, 154
„ „ 15 years, by sex, yearly 1939–45	264	—	—	—
Month of Occurrence and sex	—	167	167	*171*, 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
Children 1–5 years by sex, 1936–45 ..	63	—	—	—
ACCIDENTS, ELECTRIC CURRENTS (except lightning) (193)	262			
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Civilians, occupational	—	278	276	280
Non-civilians	—	146	145	*149*, 148
In places of residence, various triennia, 1931–45	261	—	—	—
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172*, 171
ACCIDENTS, FIREARM INJURIES (184)				
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Civilians, occupational ..	—	—, 277	—	280, —, —
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171*, 170

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ACCIDENTS, HEAT, EXCESSIVE (191)				
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Non-civilians	—	146	145	*149,* —
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172,* 171
ACCIDENTS, HUNGER OR THIRST (189)				
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172,* 171
ACCIDENTS, INJURY BY CUTTING OR PIERCING INSTRUMENTS (185)	262			
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Civilians, occupational ..	—	277	—	280, —, —
Non-civilians	—	146	145	*149,* —
In places of residence, various triennia 1931–45	261	—	—	—
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	168	168	*172,* 171
ACCIDENTS, INJURY BY FALL, CRUSHING, LANDSLIDE, ETC. (186)	262			
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Civilians, occupational	—	278, 277	276	280
Non-civilians	—	146	145	*149,* 148
Non-occupational 1940–42, 1943–45	260, 263	—	—	—
All ages by sex (11 years)	—	27	26	26
Children under 5 years	—	151	151	*155,* 154
Month of Occurrence and sex	—	168	168	*172,* 171
Death Rates :				
All ages by sex (11 years)	—	39	38	38
ACCIDENTS, LACK OF CARE OF THE NEWBORN (195c)				
Deaths :				
Ages by sex	—	143	142	*145,* 144
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex ..	—	168	168	*172,* 171
Death Rates :				
Infants under 1 year (11 years) ..	—	52	51	51
ACCIDENTS, LIGHTNING (192)				
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Non-civilians	—	146	—	*149,* —
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172,* 171

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ACCIDENTS, MACHINERY (176)				
Deaths :				
Ages by sex : Civilians, total	—	275	274	278
Civilians, occupational ..	—	277	276	280
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171*, 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
ACCIDENTS, MECHANICAL SUFFOCATION (182)	262			
Deaths :				
Ages by sex : Civilians, total	—	275	274	278
Civilians, occupational	—	277	276	280, —, 280
Non-civilians	—	146	145	*149*, 148
In places of residence, various triennia 1931–45	260	—	—	—
All ages by sex (11 years)	—	26	25	25
Children under 5 years	—	151	151	*155*, 154
Month of Occurrence and sex	—	167	167	*171*, 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
ACCIDENTS, MEDICAL OR SURGICAL (other than Vaccinia) (195b)	266			
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172*, 171
ACCIDENTS, MINE AND QUARRY (174)				
Deaths :				
Ages by sex : Civilians, total	—	275	273	277
Civilians, occupational ..	—	277	276	280
Non-civilians	—	—, 146	145	*149*, 148
Month of Occurrence and sex	—	167	167	*171*, 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
ACCIDENTS, MOTOR VEHICLE (170)	246			
Deaths :				
Ages by sex : Civilians, total	—	273	272	276
Civilians, occupational ..	—	277	276	280
Non-civilians	—	278	277	281
All ages by sex (11 years)	—	39	38	38
by type of accident, yearly 1940–45	249	—	—	—
by type of road-user, class of area of residence, and accident, 1940–42	253	—	—	—
1943–45	255	—	—	—
by type of road-user, per cent. distribution, 1940–45	248	—	—	—
Children under 5 years	—	151	151	*155*, 154

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Month of Occurrence and sex	—	167	167	*171,* 170
Pedestrians and occupants of vehicles, by type of vehicle involved, 1940–45	252	—	—	—
Death Rates :				
Ages by sex : triennia 1925–36, yearly 1937–45	248	—	—	—
per cent. of 1938, rates 1925–27, 1931–33, 1941–45	247	—	—	—
All ages by sex (11 years)	—	39	38	38
Comparative Mortality Index by sex (10 years)	—	—	42	42
ACCIDENTS, RAILWAY (169)	246			
Deaths :				
Ages by sex : Civilians inc. occupational	—	141	140	*143,* 142
	—	273	272	276
Civilians, occupational ..	—	277	276	280
Non-civilians ..	—	146	145	*149,* 148
	—	278	277	281
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171,* 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
ACCIDENTS, ROAD TRAFFIC (170–171)	246			
Deaths :				
Ages by sex : Civilians, total	—	273	272	276
Civilians, occupational	—	277	276	280
Non-civilian	—	278	277	281
All ages by sex (11 years)	—	26	25	25
by types of vehicle and accident, yearly 1940–45	249	—	—	—
by type of road-user, class of area of residence, and vehicle involved, 1940–42	253	—	—	—
1943–45	255	—	—	—
by type of road-user involved, per cent. distribution, 1940–45 ..	248	—	—	—
Area, age, and sex	—	169	169	173
Occupants of vehicles, per cent. distribution by kind of vehicle, 1940–45	251	—	—	—
Pedestrians and pedal cyclists, by type of accident, 1940–45	—	—	—	—
Death Rates :	251			
All ages by class of area, as pedestrian and as occupant of vehicle, 1938–45..	257	—	—	—
ACCIDENTS, TRAMWAY (on roads) (171a)	246			
Deaths :				
Ages by sex : Civilians, total	—	274	273	277
Civilians, occupational ..	—	277	276	280
Non-civilians	—	278	277	281
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171,* 170

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 194
ACCIDENTS, VACCINIA AND OTHER SEQUELÆ OF VACCINATION AGAINST SMALLPOX (195a)	264			
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Non-civilians	—	146	145	*149,* —
All ages by sex (11 years)	—	27	26	26
Children under 5 years	—	151	151	*155,* 154
Month of Occurrence and sex ..	—	168	168	*172,* 171
ACCIDENTS, WATER TRANSPORT (172)				
Deaths :				
Ages by sex : Civilians, total	—	274	273	277
Civilians, occupational ..	—	277	276	280
Non-civilians	—	146	145	*149,* 148
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171,* 170
Death Rates :				
All ages by sex (11 years)	—	39	38	38
ADDISON'S DISEASE (not specified as Tuberculous) (65a)	194			
Deaths :				
Ages by sex : Civilians	—	120	119	120
Non-civilians	—	144	—	147, —, 147
All ages by sex (11 years)	—	14	13	13
All ages by sex, comparison with cases specified as tuberculous, yearly 1938–45	194	—	—	—
Month of Occurrence and sex	—	156	156	*160,* 159
ADDISON'S DISEASE (specified as Tuberculous) (21a)	194			
Deaths :				
Ages by sex : Civilians	—	113	112	112
Non-civilians	—	144	—	*147,* 146
All ages by sex (11 years)	—	10	9	9
Month of Occurrence and sex	—	152	152	*156,* 155
ADRENAL GLANDS, DISEASES OF (not specified as Tuberculous) (65)				
Deaths :				
Ages by sex : Civilians	—	120	119	120
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160,* 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	31	30	30
AGRANULOCYTOSIS (76a)				
Deaths :				
Ages by sex : Civilians	—	121	120	122
Non-civilians	—	—, 144	144	*148,* 147
All ages by sex (11 years)	—	15	14	14
Month of Occurrence and sex	—	157	157	*161,* 160
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ALBUMINURIA AND NEPHRITIS OF PREGNANCY (144b)	236			
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Ages, Civilians	—	135	134	*137*, 136
All ages (11 years)	—	23	22	22
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages related to estimated pregnancies 1940–45	237	—	—	—
All ages (11 years)	—	37	36	36
ALBUMINURIA, PUERPERAL (148b)				
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Ages : Civilians	—	136	135	*138*, 137
All ages (11 years)	—	23	22	22
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages, related to maternities, 1940–45 ..	234	—	—	—
All ages (11 years)	—	37	36	36
ALCOHOLISM, ASSOCIATED WITH OTHER CAUSES	197			
Deaths :				
Ages by sex .. } All ages by sex, and main cause } yearly 1940–45	198	—	—	—
Death Rates :				
All ages, persons, yearly 1921–45 ..	200	—	—	—
ALCOHOLISM (ETHYLISM) (77)	197			
Deaths :				
Ages by sex : Civilians	—	122	121	122, 123, 122
Non-civilians	—	145, 144	144	*148*, 147
Yearly, 1940–45 ..	198	—	—	—
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	157	157	*161*, 160
ALEUKÆMIA (74b)	196			
Deaths :				
Ages by sex : Civilians	—	121	120	122
Non-civilians	—	—, 144	144	148, *147*
All ages by sex (11 years)	—	15	14	14
ANÆMIA (73)	196			
Deaths :				
Ages by sex : Civilians	—	121	120	121, 122, 121
All ages by sex (11 years)	—	15	14	14
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	157	157	*161*, 160
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	31	30	30

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ANÆMIA, PERNICIOUS (73a)	194			
Deaths :				
Ages by sex : Civilians	—	121	120	121, 122, 121
Non-civilians	—	144	143	148, —, 147
All ages by sex (11 years)	—	15	14	14
Month of Occurrence and sex	—	157	157	*161*, 160
Death Rates :				
Ages by sex, 1931-45	195	—	—	—
All ages by sex (11 years)	—	31	30	30
Comparative Mortality Index by sex (from 1931)	195	—	40	40
ANEURYSM OF AORTA (30c)	122			
Deaths :				
Ages by sex : Civilians	—	114	113	113, 114, 113
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	10	9	9
Month of Occurrence and sex	—	153	153	*157*, 156
Death Rates :				
All ages by sex (11 years)	—	29	28	28
1931–45	123	—	—	—
Sex and Age, mean, 1940–45	124	—	—	—
Sex ratios, by age, 1940–45	123	—	—	—
ANEURYSM (except of Heart and Aorta) (96)				
Deaths :				
Ages by sex : Civilians	—	126	125	*127*, 126
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164*, 163
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	33	32	32
ANGINA PECTORIS, DISEASES OF CORONARY ARTERIES (94)	207			
Deaths :				
Ages by sex : Civilians	—	125	124	126
All ages by sex (11 years)	—	18	17	17
Area and sex	—	261	260	264
Month of Occurrence and sex	—	159	159	*163*, 162
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages by sex : yearly 1931–45	208	—	—	—
mean rates in triennia 1931–45, percentage variation	210	—	—	—
males 45–75, percentage increases 1921–45 ..	212	—	—	—
All ages by sex (11 years)	—	33	32	32
Comparative Mortality Figure, by sex, for regions, etc., 1940–44	213	—	—	—
Comparative Mortality Index by sex (10 years)	—	—	40	40
Standardized on Great Britain Population: males, females, persons, 1941–45	—	—	—	—, —, 325

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ANGINA PECTORIS, WITHOUT MENTION OF CORONARY DISEASE (94b)	207			
Deaths :				
Ages by sex : Civilians	—	125	124	126
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	159	159	*163,* 162
ANKYLOSTOMIASIS (40)				
No cases reported.				
ANUS, IMPERFORATE (157g)				
Deaths :				
Ages by sex : Civilians	—	137	136	139, 140, 139
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	150	150	*154,* 153
Month of Occurrence and sex	—	165	165	*169,* 168
AORTIC VALVULAR DISEASE (without Mitral Disease) (92a)				
Deaths :				
Ages by sex : Civilians	—	124	123	125, 126, 125
Non-civilians	—	145	144	*148,* 147
Total 1939, 1942, 1945	67	—	—	—
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	159	159	*163,* 162
Death Rates :				
All ages by sex (11 years)	—	33	32	32
APPENDICITIS (121)	227			
Deaths :				
Ages by sex : Civilians	—	130	129	*132,* 131
Non-civilians	—	145	144	148
All ages by sex (11 years)	—	21	20	20
Area, age and sex	—	169	169	173
Children under 5 years	—	150	150	*154,* 153
,, 1–5 years, 1936–45	63	—	—	—
Month of Occurrence and sex	—	162	162	*166,* 165
Pregnancy, associated with, 1936–45 ..	239	—	—	—
Death Rates :				
Ages by sex : triennia 1931–45 ..	226	—	—	—
5–15 years, 1936–45 ..	64	—	—	—
per cent. decreases between 1934–36 and 1943–45	227	—	—	—
All ages by sex (11 years)	—	35	34	34
Comparative Mortality Index by sex (10 years)	—	—	41	41
Comparative Mortality Index by sex, triennia 1931–45	226	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ARTERIES, CORONARY, DISEASES OF THE (94a)	207			
Deaths :				
Ages by sex : Civilians	—	125	124	126
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	159	159	*163,* 162
ARTERIOSCLEROSIS (97)	215			
Deaths :				
Ages by sex : Civilians	—	126	125	*127,* 126
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164,* 163
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	33	32	32
Comparative Mortality Index by sex (10 years)	—	—	40	40
ARTHRITIS, RHEUMATOID (59a)	186			
Deaths :				
Ages by sex : Civilians	—	119	118	119
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160,* 159
Death Rates :				
Ages by sex, yearly 1939–45	188	—	—	—
All ages by sex (11 years)	—	31	30	30
ARTHRITIS, RHEUMATOID, AND OTHER ARTICULAR RHEUMATISM (Chronic) (59a, b)	186			
Deaths :				
All ages by sex, 1939–45	186	—	—	—
Death Rates :				
Ages by sex, yearly 1939–45	188	—	—	—
Comparative Mortality Index by sex (10 years)	—	—	40	40
ASPHYXIA, DURING OR AFTER BIRTH, ATELECTASIS (161a)	51			
Deaths :				
Ages by sex : Civilians	—	138	137	140, 141, 140
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	151	151	*155,* 154
Infants under 1 year (11 years) ..	—	51	50	50
by sex and age	—	—	—	—, —, 326
Month of Occurrence and sex	—	166	166	*170,* 169
Death Rates :				
Infants under 1 year (11 years) ..	—	52	51	51
by region and age	—	55	54	54
by sex and age, 1945	48	—	—	—
by sex and legitimacy, 1940–42, 1943–45	50	—	—	—
Infants under 4 weeks, 1936–45 ..	47	—	—	—

	Text Volume	Part I for years			
		1940, 1941	1942	1943, 1944, 1945	
ASTHMA (112)	221				
Deaths :					
Ages by sex : Civilians	—	128	127	129	
Non-civilians	—	145	144	*148,*	147
All ages by sex (11 years)	—	19	18	18	
Month of Occurrence and sex	—	161	161	*165,*	164
Pregnancy, associated with, 1937–45 ..	239	—	—	—	
Death Rates :					
All ages by sex (11 years)	—	34	33	33	
Comparative Mortality Index by sex (10 years)	—	—	41	41	
ATAXIA, LOCOMOTOR (tabes dorsalis) (30a)	122				
Deaths :					
Ages by sex : Civilians	—	114	113	113	
Non-civilians	—	—, 144	—	147, —,	146
All ages by sex (11 years)	—	10	9	9	
Month of Occurrence and sex	—	153	153	*157,*	156
Death Rates :					
All ages by sex (11 years)	—	29	28	28	
1931–45	123	—	—	—	
Sex and age, mean, 1940–45	124	—	—	—	
Sex ratios, by age, 1940–45		—	—	—	
ATROPHY, ACUTE YELLOW (not associated with Pregnancy) (125a)	227				
Deaths :					
Ages by sex : Civilians	228	131	130	*133,*	132
Non-civilians	—	146	145	*149,*	148
All ages by sex (11 years)	227	21	20	20	
Month of Occurrence and sex	—	163	163	*167,*	166
ATROPHY, ACUTE YELLOW, OF PREGNANCY (144c)	236				
Deaths :					
Age and civil condition, 1940–45 ..	235	—	—	—	
Age, civil condition and outcome of pregnancy, yearly 1940–45	241	—	—	—	
Ages : Civilians	—	135	134	*137,*	136
All ages (11 years)	—	23	22	22	
Month of Occurrence	—	164	164	*168,*	167
Death Rates :					
Ages related to estimated pregnancies, 1940–45	237	—	—	—	
All ages (11 years)	—	37	36	36	
ATROPHY, ACUTE YELLOW, PUERPERAL (148c)	236				
Deaths :					
Age and civil condition, 1940–45 ..	235	—	—	—	
Age, civil condition, and outcome of pregnancy, yearly 1940–45	241	—	—	—	
Ages : Civilians	—	136	135	*138,*	137
All ages (11 years)	—	23	22	22	

	Text Volume	Part I for years 1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
All ages, proportions according to outcome of pregnancy, 1940–45 ..	240	—	—	—
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages, related to maternities, 1940–45..	236	—	—	—
All ages (11 years)	—	37	36	36
BACILLUS COLI, GENERALISED INFECTION BY (24d)				
Deaths :				
Ages by sex : Civilians	—	113	112	113
Non-civilians	—	—	—	—, —, 146
All ages by sex (11 years)	—	10	9	9
BERI-BERI (68)				
Deaths :				
Ages by sex : Civilians	—	120	119	121, *120*
All ages by sex (11 years)	—	15	14	14
Month of Occurrence and sex	—	157	157	*161*, 160
BIRTH, INJURY AT (160)	53			
Deaths :				
Ages by sex : Civilians	—	138	137	*140*, 139
All ages by sex (11 years)	—	24	23	23
Area and sex	—	261	260	264
Children under 5 years	—	151	151	*155*, 154
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	166	166	*170*, 169
Death Rates :				
Infants under 1 year (11 years) ..	—	52	51	51
by region and age	—	55	54	54
by region, and per cent. of England and Wales, 1936–45	52	—	—	—
by sex and age, 1945	48	—	—	—
by sex and legitimacy, 1940–42, 1943–45	50	—	—	—
Infants under 4 weeks, 1936–45 ..	47	—	—	—
BIRTH, PREMATURE (159)	50			
Deaths :				
Ages by sex : Civilians	—	138	137	*140*, 139
All ages by sex (11 years)	—	24	23	23
Area, age and sex	—	169	169	173
Children under 5 years	—	150	150	*154*, 153
Infants under 1 year (11 years) ..	—	51	50	50
by age and sex..	—	—	—	—, —, 326
Month of Occurrence and sex	—	165	165	*169*, 168
Death Rates :				
Infants under 1 year (11 years) ..	—	52	51	51
by region and age	—	55	54	54
by region, and per cent. of England and Wales, 1936–45	52	—	—	—
by sex and age, 1945	48	—	—	—
by sex and legitimacy, 1940–42, 1943–45	50	—	—	—
Infants under 4 weeks, 1936–45 ..	47	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
BLADDER, DISEASES OF (135)				
Deaths :				
Ages by sex : Civilians	—	133	132	*134*, 133
Non-civilians ..	—	146, —	145	—, —, 148
All ages by sex (11 years)	—	22	21	21
Month of Occurrence and sex	—	163	163	*167*, 166
Death Rates :				
All ages by sex (11 years)	—	36	35	35
BLOOD AND BLOOD-FORMING ORGANS, DISEASES OF (72–76)				
Deaths :				
Ages by sex : Civilians	—	120	119	121
All ages by sex (11 years)	—	15	14	14
Area and sex	—	261	260	264
Month of Occurrence and sex	—	157	157	*161*, 160
Death Rates :				
All ages by sex (11 years)	—	31	30	30
BLOOD PRESSURE, HIGH (Idiopathic) (102)				
Deaths :				
Ages by sex : Civilians	—	126	125	127
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164*, 163
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	34	33	33
BONES AND ORGANS OF MOVEMENT, DISEASES OF (154–156)				
Deaths :				
Ages by sex : Civilians	—	136	135	138, 139, 138
All ages by sex (11 years)	—	23	22	22
Month of Occurrence and sex	—	165	165	*169*, 168
Death Rates :				
All ages by sex (11 years)	—	37	36	36
BREAST, DISEASES OF THE (139c)				
Deaths :				
Ages by sex : Civilians	—	133	132	*135*, 134
All ages by sex (11 years)	—	22	21	21
BRONCHITIS (106)	215			
Deaths :				
Ages by sex : Civilians	—	126	125	127
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	18	17	17
Area, age and sex	—	169	169	173
Children under 5 years	—	149	149	*153*, 152
Infants under 1 year (11 years) ..	—	51	50	50
,, ,, ,, ,, by age and sex ..	—	—	—	—, —, 326
Month of Occurrence and sex	—	160	160	*164*, 163

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Myocardial disease as contributory percentages by age and sex, 1939, 1940, 1945	215	—	—	—
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
Ages by sex, with and without mention of myocardial disease, yearly 1939–45	216	—	—	—
All ages by sex (11 years)	—	34	33	33
Comparative Mortality Figures, by sex and regions, etc., 1940–44	220	—	—	—
Comparative Mortality Index by sex (10 years)	—	—	41	41
Infants under 1 year (11 years) ..	—	52	51	51
by region and age	—	55	54	54
by age and sex, 1945 ..	48	—	—	
Infants under 4 weeks, 1936–45 ..	47	—	—	—
				—
BRONCHITIS, ACUTE (106a)	215			
Deaths :				
Ages by sex : Civilians	—	126	125	*128*, 127
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164*, 163
Death Rates :				
All ages by sex (11 years)	—	34	33	33
Comparative Mortality Index by sex (10 years)	—	—	41	41
BRONCHITIS, CHRONIC (106b)	215			
Deaths :				
Ages by sex : Civilians	—	126	125	*128*, 127
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	19	18	18
Month of Occurrence and sex	—	160	160	*164*, 163
Death Rates :				
All ages by sex (11 years)	—	34	33	33
Comparative Mortality Index by sex (10 years)	—	—	41	41
BRONCHO-PNEUMONIA (107)	217			
Deaths :				
Ages by sex : Civilians	—	127	126	128
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	19	18	18
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	161	161	*165*, 164
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
Ages by sex, percentage changes 1937–39, 1939–45	217	—	—	—
All ages by sex (11 years)	—	34	33	33
Comparative Mortality Index by sex (10 years)	—	—	41	41

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
BUCCAL CAVITY, PHARYNX AND TONSILS, DISEASES OF THE (115)	222			
Deaths :				
Ages by sex : Civilians	—	129	128	130, 131, 130
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	161	161	*165,* 164
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
Ages by sex, triennia 1931–45	226	—	—	—
All ages by sex (11 years)	—	35	34	34
CALCULI, BILIARY (126)	228			
Deaths :				
Ages by sex : Civilians	—	131	130	*133,* 132
Non-civilians	—	146	145	*149,* 148
All ages by sex (11 years)	—	21	20	20
Month of Occurrence and sex	—	163	163	*167,* 166
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	—	—	41	41
CALCULI OF THE URINARY PASSAGES (134)	229			
Deaths :				
Ages by sex : Civilians	—	132	131	133, 134, 133
Non-civilians	—	146	145	*149,* 148
All ages by sex (11 years)	—	22	21	21
Month of Occurrence and sex	—	163	163	*167,* 166
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	—	—	42	42
CANCER AND OTHER TUMOURS (45–57)	134			
Deaths :				
Ages by sex : Civilians	—	116	115	*116,* 115
All ages by sex (11 years)	—	12	11	11
Month of Occurrence and sex	—	154	154	*158,* 157
Death Rates :				
All ages by sex (11 years)	—	29	28	28
CANCER (Malignant Tumours) (45–55) ..	134			
Deaths :				
Ages by sex : Civilians	—	116	115	*116,* 115
Non-civilians	—	144	143	*147,* 146
20–25 years (males), 1939, 1942, 1945	67	—	—	—
20–35, 35–50 years (females), 1939, 1945 ..	70	—	—	—
All ages by sex (11 years)	—	12	11	11
Children under 5 years	—	148	148	*152,* 151
Month of Occurrence and sex ..	—	154	154	*158,* 157
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
Ages by sex : 1911–45	170	—	—	—
1936–39, yearly 1940–45	136	—	—	—
1911–20, 1921–30, 1931–35, per cent. of rates in 1901–10 ; 1936–39 and yearly 1940–45, per cent. of rates in 1931–35	137	—	—	—
1931–35 rates corrected to 1940 classification ..	135	—	—	—
percentage changes between 1936–39 and 1943–45	138	—	—	—
50–55, 55–65 years, various triennia, 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia, 1931–45 ..	73	—	—	—
50 years and over, 1943–45 rates, per cent. of 1931–33 rates ..	75	—	—	—
with form of cancer, 1940–45 per cent. of 1931–35	139	—	—	—
with form of cancer per cent. of all forms, 1940–42	134	—	—	—
All ages by sex (11 years)	—	29	28	28
by regions, etc., in terms of England and Wales rates, 1937–44	140	—	—	—
Children 1–5 years, 1936–45	63	—	—	—
Comparative Mortality Figures, by sex and regions, etc., 1940–44	141	—	—	—
Comparative Mortality Index, by sex (10 years)	137	40	39	39
Comparative Mortality Index, persons (from 1851)	—	44	43	43
Proportionate distribution, by age, sex and regions, etc., 1940–45	141	—	—	—
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 324
CANCER OF ADRENAL GLANDS (55a)	178			
Deaths :				
Ages by sex : Civilians	—	118	117	*118*, 117
Non-civilians	—	144, —	—	*147*, 146
Total, each year, 1940–45	147	—	—	—
All ages by sex (11 years)	—	13	12	12
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	144	—	—	—
Month of Occurrence and sex	—	155	155	*159*, 158
Death Rates :				
All ages by sex (11 years)	—	30	29	29

	Text Volume	Part I for years			
		1940, 1941	1942	1943, 1944,	1945
CANCER OF BONES (55b)	177				
Deaths :					
Ages by sex : Civilians	—	118	117	*118,*	117
Non-civilians	—	144	143	*147,*	146
All ages by sex (11 years)	—	13	12	12	
Month of Occurrence and sex	—	155	155	*159,*	158
Death Rates :					
All ages by sex (11 years)	—	30	29	29	
CANCER OF BRAIN AND OTHER PARTS OF NERVOUS SYSTEM (54)	177				
Deaths :					
Ages by sex : Civilians	—	118	117	117, 118,	117
Non-civilians	—	144	143	*147,*	146
Total, 1940–45	147	—	—	—	
All ages by sex (11 years)	—	13	12	12	
,, ,, ,, ,, distinguishing form of neoplasm, 1936–45 ..	181	—	—	—	
Month of Occurrence and sex	—	155	155	*159,*	158
Death Rates :					
Ages by sex, 1931–45	173	—	—	—	
All ages by sex (11 years)	—	30	29	29	
Comparative Mortality Index by sex (10 years)	—	—	40	40	
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —,	324
CANCER OF BREAST (50)	177				
Deaths :					
Ages by sex : Civilians	—	117	116	117	
Non-civilians	—	—, 144	—	147, 150,	146
Total, each year 1940–45	147	—	—	—	
All ages by sex (11 years)	—	13	12	12	
,, ,, ,, ,,, with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—	
Area, age and sex	—	169	169	173	
Month of Occurrence and sex	—	155	155	*159,*	158
Proportionate distribution among all sites, by age, region and class of area, 1940–45 (females)	180	—	—	—	
Death Rates :					
Ages by sex, 1911–45	172	—	—	—	
All ages by sex (11 years)	—	30	29	29	
Comparative Mortality Index by sex (10 years)	—	—	40	40	
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —,	324

	Text Volume	Part I for years			
		1940, 1941	1942	1943, 1944, 1945	
CANCER OF BUCCAL CAVITY AND PHARYNX (45)	174				
Deaths :					
Ages by sex : Civilians	—	116	115	*116,*	115
Non-civilians	—	144	143	*147,*	146
Total, with sub-divisions of group, yearly 1940–45	146	—	—	—	
All ages by sex (11 years)	—	12	11	11	
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—	
Month of Occurrence and sex	—	154	154	*158,*	157
Death Rates :					
Ages by sex, with sub-divisions of group, 1911–45	170	—	—	—	
All ages by sex (11 years)	—	29	28	28	
Comparative Mortality Index by sex (10 years)	—	—	39	39	
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —,	324
CANCER OF DIGESTIVE ORGANS AND PERITONEUM (46)	175				
Deaths :					
Ages by sex : Civilians	—	116	115	116	
Total each year, 1940–45	146	—	—	—	
All ages by sex (11 years)	—	12	11	11	
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—	
Month of Occurrence and sex	—	155	155	*159,*	158
Death Rates :					
All ages by sex (11 years)	—	29	28	28	
Comparative Mortality Index by sex (10 years)	—	—	39	39	
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —,	324
CANCER OF GENITAL ORGANS, FEMALE (except Uterus) (49)	177				
Deaths :					
Ages : Civilians	—	117	116	117	
Non-civilians	—	—	146	*150,*	149
Total, each year, 1940–45 ..	159	—	—	—	
All ages (11 years)	—	13	12	12	
,, ,, , with form of cancer, and per cent. of all forms, 1940–45 ..	143	—	—	—	
Month of Occurrence	—	155	155	*159,*	158

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
Ages, 1911–45	172	—	—	—
All ages (11 years)	—	30	29	29
Comparative Mortality Index (10 years)	—	—	39	39
Standardized on Great Britain population, 1941–45	—	—	—	—, —, 324
CANCER OF GENITAL ORGANS, MALE (51)	177			
Deaths				
Ages : Civilians	—	117	116	117
Non-civilians	—	143	143	*147*, 146
Total, each year, 1940–45 ..	147	—	—	—
All ages (11 years)	—	13	12	12
,, ,, , with form of cancer, and per cent. of all forms, 1940–45 ..	143	—	—	—
Month of Occurrence	—	155	155	*159*, 158
Death Rates :				
Ages 1911–45	172	—	—	—
All ages (11 years)	—	30	29	29
Comparative Mortality Index (10 years)	—	—	40	40
Standardized on Great Britain population, 1941–45	—	—	—	—, —, 324
CANCER OF GLANDS, ADRENAL (55a)	178			
Deaths :				
Ages by sex : Civilians	—	118	117	*118*, 117
Non-civilians	—	144, —	—	*147*, 146
Total each year, 1940–45	147	—	—	—
All ages by sex (11 years)	—	13	12	12
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	144	—	—	—
Month of Occurrence and sex	—	155	155	*159*, 158
Death Rates :				
All ages by sex (11 years)	—	30	29	29
CANCER OF GLAND, THYROID (55c)	178			
Deaths :				
Ages by sex : Civilians	—	118	117	118
Non-civilians	—	—, 144	143	150, 147, 146
Total, each year, 1940–45	147	—	—	—
All ages by sex (11 years)	—	13	12	12
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	144	—	—	—
Month of Occurrence and sex	—	155	155	*159*, 158
Death Rates :				
Ages by sex, 1911–45	173	—	—	—
All ages by sex (11 years)	—	30	29	29

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
CANCER OF INTESTINES OTHER THAN DUODENUM OR RECTUM (46c)	175			
Deaths :				
Ages by sex : Civilians	—	116	115	116
Non-civilians	—	144	143	*147*, 146
Total each year, 1940–45	146	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Month of Occurrence and sex	—	155	155	*159*, 158
Death Rates :				
Ages by sex, 1911–45	171	—	—	—
All ages by sex (11 years)	—	30	29	29
CANCER OF LARYNX AND TRACHEA (47a)	175			
Deaths :				
Ages by sex : Civilians	—	117	116	*117*, 116
Non-civilians	—	—, 144	143	*147*, 146
Total, each year 1940–45	147	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Month of Occurrence and sex	—	155	155	*159*, 158
Death Rates :				
Ages by sex, 1911–45	172	—	—	—
All ages by sex (11 years)	—	30	29	29
CANCER OF LIPS (45a)	174			
Deaths :				
Ages by sex : Civilians	—	116	115	116
Non-civilians	—	—	143	—, 147, 146
Total, each year, 1940–45	146	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Month of Occurrence and sex	—	155	155	*159*, 157
Death Rates :				
Ages by sex, 1911–45	170	—	—	—
All ages by sex (11 years)	—	29	28	28
CANCER OF LIVER AND BILIARY PASSAGES (46e)	175			
Deaths :				
Ages by sex : Civilians	—	117	116	116, 117, 116
Non-civilians	—	144	143	*147*, 146
Total, each year, 1940–45	146	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Month of Occurrence and sex	—	155	155	*159*, 158
Death Rates :				
Ages by sex, 1911–45	171	—	—	—
All ages by sex (11 years)	—	30	29	29
CANCER OF LUNG AND PLEURA (47b)	175			
Deaths :				
Ages by sex : Civilians	—	117	116	*117*, 116
Non-civilians	—	144	143	*147*, 146
Total, each year, 1940–45	147	—	—	—
1945 compared with 1938 and 1931 (males) ..	176	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Month of Occurrence and sex	—	155	155	*159*, 158
Death Rates :				
Ages by sex, 1911–45	172	—	—	—
,, ,, ,, , per cent. increases between 1936–39, and 1945 ..	175	—	—	—
,, ,, ,, , increases between 1921–30, and 1931–35 ; and 1936–39 and 1945	176	—	—	—
All ages by sex (11 years)	—	30	29	29
CANCER OF NOSE OR NASAL CAVITY (55d : 1)				
Deaths :				
Ages by sex : Civilians	—	118	117	118
All ages by sex (11 years)	—	13	12	12
CANCER OF ŒSOPHAGUS (46a)	174			
Deaths :				
Ages by sex : Civilians	—	116	115	116
Non-civilians	—	144	143	*147*, 146
Total, each year, 1940–45	146	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Month of Occurrence and sex	—	155	155	*159*, 158
Death Rates :				
Ages by sex, 1911–45	170	—	—	—
All ages by sex (11 years)	—	29	28	28
CANCER OF PANCREAS (46f)	175			
Deaths :				
Ages by sex : Civilians	—	117	116	116, 117, 116
Non-civilians	—	144	143	*147*, 146
Total, each year, 1940–45	146	—	—	—
All ages by sex (11 years)	—	12	11	11

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
All ages by sex, with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Month of Occurrence and sex ..	—	155	155	*159,* 158
Death Rates :				
Ages by sex, 1911–45	171	—	—	—
All ages by sex (11 years)	—	30	29	29
CANCER OF PERITONEUM (46g)	175			
Deaths :				
Ages by sex : Civilians	—	117	116	*117,* 116
Non-civilians	—	144	143	*147,* 146
Total, each year, 1940–45	146	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Month of Occurrence and sex	—	155	155	*159,* 158
Death Rates :				
Ages by sex, 1911–45	171	—	—	—
All ages by sex (11 years)	—	30	29	29
CANCER OF PROSTATE (51b)	177			
Deaths :				
Ages : Civilians	—	117	116	117
Non-civilians	—	144	143	147, —, 146
Total, each year, 1940–45 ..	147	—	—	—
All ages (11 years)	—	13	12	12
,, ,, , with form of cancer, and per cent. of all forms, 1940–45 ..	143	—	—	—
Month of Occurrence	—	155	155	*159,* 158
Death Rates :				
Ages, 1911–45	172	—	—	—
All ages (11 years)	—	30	29	29
CANCER OF RECTUM (46d)	175			
Deaths :				
Ages by sex : Civilians	—	116	115	116
Non-civilians	—	144	143	*147,* 146
Total, each year, 1940–45	146	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Month of Occurrence and sex	—	155	155	*159,* 158
Death Rates :				
Ages by sex, 1911–45	171	—	—	—
All ages by sex (11 years)	—	30	29	29

(86504) L*

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
CANCER OF RESPIRATORY SYSTEM (47)	175			
Deaths :				
Ages by sex : Civilians	—	117	116	*117,* 116
Total, each year, 1940–45	147	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,,, with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Area and sex	—	261	260	264
Month of Occurrence and sex	—	155	155	*159,* 158
Proportionate distribution among all sites, by age, region and class of area, 1940–45 (females)	179	—	—	—
Death Rates :				
All ages by sex (11 years)	—	30	29	29
Comparative Mortality Index by sex (10 years)	—	—	39	39
Standardized on Great Britain population: males, females, persons, 1941–45	—	—	—	—, —, 324
CANCER OF SCROTUM (51a)	177			
Deaths :				
Ages : Civilians	—	117	116	117
Total, each year, 1940–45 ..	147	—	—	—
All ages (11 years)	—	13	12	12
,, ,, , with form of cancer and per cent. of all forms, 1940–45 ..	143	—	—	—
Month of Occurrence	—	155	155	*159,* 158
Death Rates :				
All ages (11 years)	—	30	29	29
CANCER OF SKIN (excluding Scrotum) (53)	177			
Deaths :				
Ages by sex : Civilians	—	118	117	117, 118, 117
Non-civilians	—	144	143	*147,* 146
Total, each year, 1940–45 ..	147	—	—	—
All ages by sex (11 years)	—	13	12	12
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	144	—	—	—
Month of Occurrence and sex	—	155	155	*159,* 158
Death Rates :				
All ages by sex (11 years)	—	30	29	29
Comparative Mortality Index by sex (10 years)	—	—	40	40
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 324
CANCER OF SKIN (including Scrotum) (51a and 53)	177			
Death Rates :				
Ages by sex, 1911–45	173	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
CANCER OF STOMACH AND DUODENUM (46b)	174			
Deaths :				
Ages by sex : Civilians	—	116	115	116
Non-civilians	—	144	143	*147,* 146
Total, each year, 1940–45	146	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Area, age, and sex	—	169	169	173
Month of Occurrence and sex	—	155	155	*159,* 158
Proportionate distribution among all sites, by age, region and class of area, 1940–45 (females)	179	—	—	—
Death Rates :				
Ages by sex, 1911–45	171	—	—	—
All ages by sex (11 years)	—	29	28	28
CANCER OF THYROID GLAND (55c)	177			
Deaths :				
Ages by sex : Civilians	—	118	117	118
Non-civilians	—	—, 144	143	150, 147, 146
Total, each year, 1940–45	147	—	—	—
All ages by sex (11 years)	—	13	12	12
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	144	—	—	—
Month of Occurrence and sex	—	155	155	*159,* 158
Death Rates :				
Ages by sex, 1911–45	173	—	—	—
All ages by sex (11 years)	—	30	29	29
CANCER OF TONGUE (45b)	174			
Deaths :				
Ages by sex : Civilians	—	116	115	116
Non-civilians	—	—	143	*147,* 146
Total, each year, 1940–45	146	—	—	—
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—
Month of Occurrence and sex	—	155	155	*159,* 158
Death Rates :				
Ages by sex, 1911–45	170	—	—	—
All ages by sex (11 years)	—	29	28	28
CANCER OF URINARY ORGANS (52)	177			
Deaths :				
Ages by sex : Civilians	—	117	116	117
Non-civilians	—	144	143	*147,* 146
Total, each year, 1940–45	147	—	—	—

	Text Volume	Part I for years			
		1940, 1941	1942	1943, 1944,	1945
Deaths—*contd.*					
All ages by sex (11 years)	—	13	12	12	
,, ,, ,, ,, , with form of cancer, and per cent. of all forms, 1940–45	143	—	—	—	
Month of Occurrence and sex	—	155	155	*159,*	158
Death Rates :					
Ages by sex, 1911–45	173	—	—	—	
All ages by sex (11 years)	—	30	29	29	
Comparative Mortality Index by sex (10 years)	—	—	40	40	
Standardized on Great Britain population : males, females, persons 1941–45	—	—	—	—, —,	324
CANCER OF UTERUS (48)	177				
Deaths :					
Ages : Civilians	—	117	116	*117,*	116
Non-civilians	—	—	147	150	
Total, each year, 1940–45 ..	159	—	—	—	
All ages (11 years)	—	13	12	12	
,, ,, with form of cancer, and per cent. of all forms, 1940–45 ..	143	—	—	—	
Area, and age	—	169	169	173	
Month of Occurrence	—	155	155	*159,*	158
Proportionate distribution among all sites, by age, region and class of area, 1940–45	180	—	—	—	
Death Rates :					
Ages : 1911–45	172	—	—	—	
All ages (11 years)	—	30	29	29	
Comparative Mortality Index (10 years)	—	—	39	39	
Standardized on Great Britain population, 1941–45	—	—	—	—, —,	324
CARBUNCLE, BOILS (151)					
Deaths :					
Ages by sex : Civilians	—	136	135	138	
Non-civilians	—	146	145	*149,*	148
All ages by sex (11 years)	—	23	22	22	
Month of Occurrence and sex	—	165	165	*169,*	168
Pregnancy, associated with, 1937–45 ..	239	—	—	—	
Death Rates :					
All ages by sex (11 years)	—	37	36	36	
Comparative Mortality Index by sex (10 years)	—	—	42	42	
CARDIOVASCULAR DEGENERATION (93c : 1)	207				
Deaths :					
Ages by sex : Civilians	—	125	124	*126,*	125
Non-civilians	—	145	144	*148,*	147
All ages by sex (11 years)	—	18	17	17	
Month of Occurrence and sex	—	159	159	*163,*	162

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
Ages by sex, yearly, 1931–45	209	—	—	—
All ages by sex (11 years)	—	33	32	32
CELLULITIS, ACUTE ABSCESS (152)				
Deaths :				
Ages by sex : Civilians	—	136	135	138, 139, 138
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	23	22	22
Month of Occurrence and sex	—	165	165	*169*, 168
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	37	36	36
Comparative Mortality Index by sex (10 years)	—	—	42	42
CEREBRAL EMBOLISM, THROMBOSIS AND SOFTENING (83b, c)	202			
Deaths :				
Ages by sex : Civilians	—	122	121	123, 124, 123
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	158	158	*162*, 161
Death Rates :				
Ages by sex, 1931–45	201	—	—	—
All ages by sex (11 years)	—	32	31	31
Comparative Mortality Index by sex, 1931–45	201	—	—	—
CEREBRAL HÆMORRHAGE (83a)	202			
Deaths :				
Ages by sex : Civilians	—	122	121	123, 124, 123
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	158	158	*162*, 161
Death Rates :				
Ages by sex, 1931–45	201	—	—	—
,, ,, ,, , mean rates 1943–45 in terms of mean rates, 1936–38..	203	—	—	—
All ages by sex (11 years)	—	32	31	31
Comparative Mortality Index by sex, 1931–45	201	—	—	—
CEREBRO-SPINAL (MENINGOCOCCAL) MENINGITIS (6)	89			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	9	8	8
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152*, 151
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex ..	—	152	152	*156*, 155
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
Ages by sex, 1911–45	90	—	—	—
All ages by sex (11 years)	—	28	27	27
Areas : Civilians	—	45	44	44
Children 1–5 years, 1911–45	62	—	—	—
5–10, 10–15 years, by sex, 1936–45	64	—	—	—
Comparative Mortality Index, by sex (10 years)	—	40	39	39
Comparative Mortality Index, persons (from 1911)	—	44	43	43
Infants under 1 year (11 years) ..	—	52	51	51
by region and age	—	54	53	53
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 324
Notifications :				
Numbers : age and sex	—	—	—	—, 324, *287*
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	—	282	281	285, *286*
corrected and original, 1931–45	90	—	—	—
corrected and original, ratios by regions, etc., 1944–45	86	—	—	—
Rates : prevalence, by area (11 years)	—	279	278	282
prevalence, by regions, 1939–45	91	—	—	—
prevalence and fatality, 1931–45	91	—	—	—
prevalence and fatality, by sex and age, 1944, 1945	92	—	—	—
prevalence and fatality, by regions, etc., 1940–45 ..	92	—	—	—
CHILDBIRTH AND THE PUERPERIUM, INFECTION DURING (147)	234			
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition, and outcome of pregnancy, yearly, 1940–45	241	—	—	—
Ages : Civilians	—	135	134	*137*, 136
All ages (11 years)	—	23	22	22
Area	—	261	260	264
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages related to maternities, 1940–45 ..	236	—	—	—
All ages (11 years)	—	37	36	36
Areas : Civilians	—	45	44	44
CHOLECYSTITIS (without record of Biliary Calculi) (127a)	228			
Deaths :				
Ages by sex : Civilians	—	131	130	*133*, 132
Non-civilians	—	146	—	*149*, 148

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
All ages by sex (11 years)	—	21	20	20
Month of Occurrence and sex	—	163	163	*167,* 166
Death Rates :				
All ages by sex (11 years)	—	36	35	35
CHOLERA (4)				
No cases reported.				
CHOREA (87a)				
Deaths :				
Ages by sex : Civilians	—	123	122	124
Non-civilians	—	—, 145	—	—
Civilians and non-civilians, 1940–42, 1943–45 ..	184	—	—	—
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	158	158	*162,* 161
Pregnancy, associated with, 1937–45 ..	238	—	—	—
CIRCULATORY SYSTEM, DISEASES OF (90–103)	207			
Deaths :				
Ages by sex : Civilians	—	124	123	*125,* 124
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	159	159	*163,* 162
Death Rates :				
All ages by sex (11 years)	—	32	31	31
CIRRHOSIS OF LIVER (124)	199			
Deaths :				
Ages by sex : Civilians	—	131	130	132, 133, 132
All ages by sex (11 years)	—	21	20	20
Area and sex	—	261	260	264
Month of Occurrence and sex	—	162	162	*166,* 165
Death Rates :				
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	199	—	41	41
CIRRHOSIS OF LIVER (with mention of Alcoholism) (124a)	197			
Deaths :				
Ages by sex : Civilians	—	131	130	132, 133, 132
Non-civilians	—	146, —	145	—, *148*
All ages by sex (11 years)	198	21	20	20
Month of Occurrence and sex	—	162	162	*166,* 165
Death Rates :				
All ages by sex (11 years)	—	36	35	35
CIRRHOSIS OF THE LIVER (without mention of Alcoholism) (124b)	199			
Deaths :				
Ages by sex : Civilians	—	131	130	132, 133, 132
Non-civilians	—	146	145	*149,* 148
All ages by sex (11 years)	199	21	20	20

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Month of Occurrence and sex	—	162	162	*166*, 165
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	36	35	35
CIRRHOSIS AND OTHER DISEASES OF THE LIVER (124 and 125)				
Deaths :				
Children under 5 years	—	150	150	*154*, 153
CLEFT PALATE, HARELIP (157f)				
Deaths :				
Ages by sex : Civilians	—	137	136	139, 140, 139
Non-civilians	—	146	—	—
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	150	150	*154*, 153
Month of Occurrence and sex	—	165	165	*169*, 168
CONGESTION OF LUNGS (Chronic) (111c)				
Deaths :				
Ages by sex : Civilians	—	128	127	129
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	19	18	18
Month of Occurrence and sex	—	161	161	*165*, 164
Death Rates :				
All ages by sex (11 years)	—	34	33	33
CONTINUED FEVER (200a: 2)				
Notifications :				
Numbers, civilians, non-civilians and Port Health Districts (11 years) ..	—	282	281	285, *286*
CONVULSIONS, IN CHILDREN UNDER 5 YEARS OF AGE (86)	205			
Deaths :				
Ages by sex	—	123	122	*124*, 123
All ages by sex (11 years)	—	17	16	16
Children under 5 years	—	149	149	*153*, 152
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	158	158	*162*, 161
Death Rates :				
Children 1–5 years, 1936–45	63	—	—	—
Infants under 1 year (11 years) ..	—	52	51	51
by region and age	—	55	54	54
by region, etc., with per cent. of England and Wales, 1936–45 ..	52	—	—	—
by sex and legitimacy, 1940–45 ..	50	—	—	—
CORONARY ARTERIES, DISEASES OF (94a)	207			
Deaths :				
Ages by sex : Civilians	—	125	124	126
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	159	159	*163*, 162

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
CYSTIC DISEASE OF KIDNEY (157h)				
Deaths :				
Ages by sex : Civilians	—	137	136	139, 140, 139
Non-civilians	—	146	145	*149,* 148
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	150	150	*154,* 153
Month of Occurrence and sex	—	165	165	*169,* 168
CYSTITIS OF THE BLADDER (135a)				
Deaths :				
Ages by sex : Civilians	—	133	132	*134,* 133
Non-civilians	—	146	145	149, —, —
All ages by sex (11 years)	—	22	21	21
Month of Occurrence and sex	—	163	163	*167,* 166
Death Rates :				
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	—	—	42	42
DEBILITY, CONGENITAL (158)	267			
Deaths :				
Ages (under 1 year) by sex	—	150	150	*154,* 153
All ages by sex (11 years)	—	24	23	23
Infants under 1 year, by age and sex ..	—	—	—	—, —, 326
Month of Occurrence and sex	—	165	165	*169,* 168
Death Rates :				
Ages (under 1 year), by region	—	55	54	54
Infants under 1 year (11 years) ..	—	52	51	51
by age and sex, 1945	48	—	—.	—
by regions with per cent. of England and Wales, 1936–45	52	—	—	—
Infants under 4 weeks, 1936–45 ..	47	—	—	—
DEGENERATION, MYOCARDIAL, DESCRIBED AS FATTY (93c:2)	212			
Deaths :				
Ages by sex : Civilians	—	125	124	*126,* 125
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	18	17	17
Area and sex	—	261	260	264
Month of Occurrence and sex	—	159	159	*163,* 162
Death Rates :				
Ages by sex, 1931–45	211	—	—	—
All ages by sex (11 years)	—	33	32	32
Areas : Civilians	—	45	44	44
DIABETES MELLITUS (61)	187			
Deaths :				
Ages by sex : Civilians	—	119	118	*120,* 119
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	14	13	13
Area, age and sex	—	169	169	173
Month of Occurrence and sex	—	156	156	*160,* 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
Ages by sex, 1931–45	188	—	—	—
50–55, 55–65 years, various triennia, 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia, 1931–45 ..	73	—	—	—
per cent. of 1920–22, rates 1923–25, 1926–30, 1931–35, 1938–39 ; per cent. of 1938–39, rates yearly, 1940–45..	190	—	—	—
All ages by sex (11 years)	—	31	30	30
Comparative Mortality Figure, by sex, for regions, etc., mean 1940–44 ..	190	—	—	—
Comparative Mortality Index by sex (10 years)	188	41	40	40
Comparative Mortality Index, persons (from 1901)	—	44	43	43
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 325
DIGESTIVE SYSTEM, DISEASES OF THE (115–129)	70			
Deaths :				
Ages by sex : Civilians	—	129	128	130
25–35, 35–50 years (females) 1939, 1945 ..	70	—	—	—
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	161	161	*165,* 164
Death Rates :				
Ages by sex : 50–55, 55–65 years, various triennia, 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia, 1931–45 ..	73	—	—	—
All ages by sex (11 years)	—	35	34	34
Comparative Mortality Index by sex (10 years)	—	—	41	41
Quarterly by sex : each year 1939–41, 1943	20	—	—	—
excess in March quarters, 1940, 1941, as per cent. of March Quarter, 1939	20	—	—	—
DIPHTHERIA (10)	97			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	9	8	8
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152,* 151
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	152	152	*156,* 155
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
Ages (persons), with per cent. of rate at 5–10 years, 1906–45	99	—	—	—
All ages by sex (11 years)	—	28	27	27
Children under 15 years (from 1861) ..	—	44	43	43
0–5, 5–15 years, by regions, etc., 1938–45	100	—	—	—
0–5, 5–15 years, in 25 Large Towns and other area aggregates, 1944–45	104	—	—	—
0–5, 5–15 years, per cent. of 1938–39 rates, by class of area, 1944–45 ..	109	—	—	—
1–5 years, 1911–45	62	—	—	—
5–10, 10–15 years, by sex, 1936–45 ..	64	—	—	—
Comparative Mortality Index by sex (10 years)	—	40	39	39
Infants under 1 year (11 years) ..	—	52	51	51
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	—	282	281	285, *286*
corrected and original, 1938–45..	100	—	—	—
corrected and original, ratios by regions, etc., 1944–45	86	—	—	—
corrected and original, ratios for 25 Large Towns, 1944–45..	103	—	—	—
Rates : prevalence, by area (11 years)	—	279	278	282, *283*
prevalence, by ages, sex ratios, 1944, 1945	101	—	—	—
prevalence and fatality, by sex and age, 1944, 1945	101	—	—	—
prevalence and fatality, by regions, etc., 1944, 1945 ..	103	—	—	—
various large towns and residual area aggregates—				
prevalence 0–5, 5–15 years, 1944, 1945	104	—	—	—
prevalence, all ages, 1935–45	103	—	—	—
prevalence, all ages, 1926–30, 1935–38	106	—	—	—
Seasonal incidence	—	281	280	284, *285*
Immunisation :	279			
Proportions immunised to 1945 in 25 Large Towns and other areas ..	104	—	—	—
with prevalence and mortality, average rates, 1926–45	106	—	—	—
by area and age, to 1945	283	—	—	—
by classes of area and age	288	—	—	—
Prevalence and mortality among immunised and non-immunised children, by age and class of area, 1945	291	—	—	—

	Text Volume	Part I for years 1940, 1941	1942	1943, 1944, 1945
Immunisation—*contd.*				
Prevalence and mortality rates, ratios between immunised and non-immunised children, by age and class of area, 1945	291	—	—	—
DIVERTICULITIS (123a)				
Deaths :				
Ages by sex : Civilians	—	131	130	132
Non-civilians	—	146, 145	145	149, —, 148
All ages by sex (11 years)	—	21	20	20
Month of Occurrence and sex	—	162	162	*166*, 165
Death Rates :				
All ages by sex (11 years)	—	36	35	35
DYSENTERY (27)	121			
Deaths :				
Ages by sex : Civilians	—	113	112	113
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	10	9	9
,, ,, , persons, 1931–45, with distinction of form of dysentery ..	122	—	—	—
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	153	153	*157*, 156
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	122	282	281	285, *286*
ratio of corrected to original notifications, by region, etc., 1944, 1945	86	—	—	—
Rates : prevalence, by area (from 1937)	—	280	279	283
prevalence and fatality, by sex and age, 1944, 1945	122	—	—	—
ratio of notifications to deaths, 1931–45	122	—	—	—
EAR AND MASTOID ANTRUM, DISEASES OF THE (89)	205			
Deaths :				
Ages by sex : Civilians	—	124	123	*125*, 124
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	17	16	16
Area and sex	—	261	260	264
Children under 5 years	—	149	149	*153*, 152
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	159	159	*163*, 162
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years			
		1940, 1941	1942	1943, 1944, 1945	
Death Rates :					
Ages by sex, 1931–45	206	—	—	—	
All ages by sex (11 years)	—	32	31	31	
Children 1–5 years by sex, 1936–45 ..	63	—	—	—	
,, 5–15 years by sex, 1936–45 ..	64	—	—	—	
Comparative Mortality Index by sex from 1931	—	—	40	40	
Infants under 1 year (11 years) ..	—	52	51	51	
ECLAMPSIA OF PREGNANCY (144a)	236				
Deaths :					
Age and civil condition, 1940–45 ..	235	—	—	—	
Ages : Civilians	—	135	134	*137,*	136
All ages (11 years)	—	23	22	22	
Month of Occurrence	—	164	164	*168,*	167
Death Rates :					
Ages related to estimated pregnancies, 1940–45	237	—	—	—	
All ages (11 years)	—	37	36	36	
ECLAMPSIA, PUERPERAL (148a)	236				
Deaths :					
Age and civil condition, 1940–45 ..	235	—	—	—	
Ages : Civilians	—	136	135	*138,*	137
Non-civilians	—	—	—	150, —,	149
All ages (11 years)	—	23	22	22	
Month of Occurrence	—	164	164	*168,*	167
Death Rates :					
Ages, related to maternities, 1940–45 ..	236	—	—	—	
All ages (11 years)	—	37	36	36	
ECTOPIC GESTATION (142)	237				
Deaths :					
Age and civil condition, 1940–45 ..	235	—	—	—	
Age, civil condition and outcome of pregnancy, yearly, 1940–45	241	—	—	—	
Ages : Civilians	—	134	133	*136,*	135
Non-civilians	—	—	—	—, —,	149
All ages (11 years)	—	23	22	22	
Month of Occurrence	—	164	164	*168,*	167
Death Rates :					
Ages, related to estimated pregnancies, 1940–45	237	—	—	—	
All ages (11 years)	—	37	36	36	
EMPHYSEMA, PULMONARY (113)					
Deaths :					
Ages by sex : Civilians	—	128	127	129, 130,	129
Non-civilians	—	145	144	*148,*	147
All ages by sex (11 years)	—	20	19	19	
Month of Occurrence and sex	—	161	161	*165,*	164
Death Rates :					
All ages by sex (11 years)	—	34	33	33	

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
EMPYEMA (110a)				
Deaths :				
Ages by sex : Civilians	—	128	127	*129*, 128
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	19	18	18
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	161	161	*165*, 164
Death Rates :				
All ages by sex (11 years)	—	34	33	33
ENCEPHALITIS, ACUTE INFECTIOUS (Lethargic) (37)	132			
Deaths :				
Ages by sex : Civilians	—	115	114	*115*, 114
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	11	10	10
,, ,, , persons, by different forms, 1931–45	131	—	—	—
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	154	154	*158*, 157
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	29	28	28
Comparative Mortality Index by sex (10 years)	—	—	39	39
Notifications :				
Numbers : age and sex	132	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	131	282	281	285, *286*
ENCEPHALITIS (Non-Epidemic) (80)				
Deaths :				
Ages by sex : Civilians	—	122	121	*123*, 122
All ages by sex (11 years) ..	—	16	15	15
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	158	158	*162*, 161
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	32	31	31
ENDOCARDITIS, ACUTE (91)	207			
Deaths :				
Ages by sex : Civilians	—	124	123	125
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	159	159	*163*, 162
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	33	32	32
Comparative Mortality Index by sex (10 years)	—	—	40	40
Standardized on Great Britain population: males, females, persons, 1941–45	—	—	—	—, —, 325

	Text Volume.	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ENDOCARDITIS, RHEUMATIC, ACUTE (58b)	182			
Deaths :				
Ages by sex : Civilians	—	119	118	119
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160,* 159
Death Rates :				
All ages by sex (11 years)	—	31	30	30
Children 5–15, by sex, 1936–45 ..	64	—	—	—
ENTERITIS AND DIARRHŒA (all ages) (119, 120)	225			
Deaths :				
Ages by sex : Civilians	—	130	129	131, 132, 131
Non-civilians	—	145	144	148
All ages by sex (11 years)	—	21	20	20
Children under 5 years	—	149	149	*153,* 152
Month of Occurrence and sex	—	162	162	*166,* 165
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Quarterly, by age and sex, 1943 ..	226	—	—	—
Death Rates :				
Ages by sex, triennia, 1931–45 ..	225	—	—	—
Ages 1–5 years, 1911–45	62	—	—	—
All ages by sex (11 years)	—	35	34	34
ENTERITIS AND DIARRHŒA (under two years) (119)	225			
Deaths :				
Ages by sex	—	130	129	131
Area, age and sex	—	169	169	173
Infants under 1 year (11 years) ..	225	51	50	50
by age and sex	—	—	—	—, —, 326
Quarterly, by age and sex, 1943 ..	226	—	—	—
Death Rates :				
Areas (2 years)	—	45	44	44
Infants under 1 year (11 years) ..	47	52	51	51
by region and age	—	54	53	53
by region, with per cent. of England and Wales, 1936–45	52	—	—	—
by sex and age, 1945	48	—	—	—
by sex and legitimacy, 1940–45	50	—	—	—
Infants under 4 weeks, 1936–45 ..	47	—	—	—
EPILEPSY (85)	204			
Deaths :				
Ages by sex : Civilians	—	123	122	*124,* 123
Non-civilians	—	145	144	*148,* 147
Total, 1939, 1942, 1945 ..	67	—	—	—
All ages by sex (11 years)	—	17	16	16
Children under 5 years	—	149	149	*153,* 152
Month of Occurrence and sex	—	158	158	*162,* 161
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages (males), civilian and total rates ..	204	—	—	—
Ages 20–25 (males), 1939, 1942, 1945 ..	67	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates—*contd.*				
All ages by sex (11 years)	—	32	31	31
Children 1–5 years, 1936–45	63	—	—	—
Comparative Mortality Index by sex (10 years)	—	—	40	40
ERYSIPELAS (11)	106			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	143	147, —, —
All ages by sex (11 years)	—	9	8	8
,, ,, (persons) from 1923	107	—	—	—
Area and sex	—	261	260	264
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	152	152	*156*, 155
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	28	27	27
Comparative Mortality Index by sex (10 years)	—	—	39	39
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	107	282	281	285, *286*
Rates : prevalence, by area (11 years)	—	280	279	283
prevalence and fatality, by sex and age, 1944, 1945 ..	107	—	—	—
fatality, yearly 1923–45 ..	107	—	—	—
EXECUTIONS, LEGAL (198)				
Deaths :				
Ages by sex : Civilians	—	143	142	*146*, 145
Non-civilians	—	—, 146	145	*149*, 148
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172*, 171
EXOPHTHALMIC GOITRE (63b)	191			
Deaths :				
Ages by sex : Civilians	—	120	119	120
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	14	13	13
Area and sex	—	261	260	264
Month of Occurrence and sex	—	156	156	*160*, 159
Death Rates :				
Ages by sex, yearly 1931–45	192	—	—	—
,, ,, ,, mean rates 1931–33, 1936–38, 1943–45	191	—	—	—
All ages by sex (11 years)	—	31	30	30
Comparative Mortality Figure, by sex, for regions, etc., mean 1940–44 ..	192	—	—	—
Comparative Mortality Index by sex, from 1931	192	—	40	40
Comparative Mortality in groups of areas, persons, 1913–22 and 1940–44	193	—	—	—

	Text Volume	Part I for years 1940, 1941	1942	1943, 1944, 1945
FALLOPIAN TUBES, DISEASES OF THE (139a: 2)				
Deaths :				
Ages : Civilians	—	133	132	*135,* 134
Non-civilians	—	—	146	*150,* 149
All ages (11 years)	—	22	21	21
Death Rates :				
All ages (11 years)	—	37	36	36
FEVER, CONTINUED (200a: 2)				
Notifications :				
Numbers : civilians, non-civilians and Port Health Districts (11 years) ..	—	282	281	285, *286*
FEVER, PARATYPHOID (2)	87			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	—	—, 147, —
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156,* 155
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	—	282	281	285, *286*
Ratios of corrected to original notifications, by area, 1944–45	86	—	—	—
Rates : prevalence, by area (from 1940)	—	279	278	282
prevalence and fatality, by area, 1940–45	88	—	—	—
prevalence and fatality, by sex and age, 1944, 1945	89	—	—	—
Seasonal incidence	—	281	280	284, *285*
FEVER, PUERPERAL AND PYREXIA (147b)	242			
Death Rates :				
All ages by region, etc., 1940–45 ..	243	—	—	—
Notifications :				
Numbers : area	—	283	282	286, *288*
civilians, non-civilians and Port Health Districts (11 years)	—	282	281	285, *286*
Rates : prevalence by area (11 years)	—	280	279	283, *284*
FEVER, RELAPSING (31)				
Deaths :				
Ages by sex : Civilians	—	114, —	—	—
All ages by sex (11 years)	—	11	10	10
Notifications :				
Numbers : civilians, non-civilians and Port Health Districts (11 years) ..	—	282	281	285, *286*

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
FEVER, RHEUMATIC (58)	182			
Deaths :				
Ages by sex : Civilians	—	119	118	119
Non-civilians	—	144	143	147, —, —
Civilians and non-civilians, 1940–42, 1943–45 ..	184	—	—	—
All ages by sex (11 years)	—	13	12	12
Area and sex	—	261	260	264
Children under 5 years	—	148	148	*152,* 151
Month of Occurrence and sex	—	156	156	*160,* 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages by sex, with and without heart involvement, yearly 1940–45 ..	183	—	—	—
Ages by sex, with heart involvement, mean 1940–42, 1943–45	186	—	—	—
All ages by sex (11 years)	—	31	30	30
Children 1–5 years, by sex, 1936–45 ..	63	—	—	—
Comparative Mortality Index by sex (10 years)	182	—	40	40
FEVER, SCARLET (8)	93			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	143	*147,* 151
All ages by sex (11 years)	—	9	8	8
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152,* 151
Month of Occurrence and sex	—	152	152	*156,* 155
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	28	27	27
Areas : Civilians	—	45	44	44
Children 1–5 years, 1911–45	62	—	—	—
Children under 15 years (from 1861) ..	—	44	43	43
Comparative Mortality Index by sex (10 years)	—	—	39	39
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts ..	—	282	281	285, *286*
ratios of corrected to original notifications, by region, etc., 1944–45 ..	86	—	—	—
Rates : prevalence, by area (11 years)	—	279	278	282
prevalence, by region, etc., at ages 0–5, 5–15, 1944, 1945 ..	94	—	—	—
prevalence and fatality, by age and sex, 1944, 1945	95	—	—	—
fatality, by region, etc., 1940–45	94	—	—	—
Seasonal incidence	—	281	280	284, *285*

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
FEVER, TYPHOID (1)	87			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156*, 155
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	86	282	281	285, *286*
ratios of corrected to original notifications, by area, 1944–45	86	—	—	—
Rates : prevalence and fatality, by area, 1940–45	88	—	—	—
prevalence and fatality, by sex and age, 1944, 1945 ..	89	—	—	—
prevalence, by area from 1940	—	279	278	282
Seasonal incidence	—	281	280	284, *285*
FEVER, TYPHOID AND PARATYPHOID (1, 2)	87			
Deaths :				
Ages by sex : Non-civilians	—	147	147	*151*, 150
Area, age and sex	—	169	169	173
Death Rates :				
All ages by sex (11 years)	—	28	27	27
Areas : Civilians	—	45	44	44
Comparative Mortality Index, by sex (10 years)	—	—	39	39
Comparative Mortality Index, Persons (from 1871)	—	44	43	43
Standardized on Great Britain population: males, females, persons, 1941–45	—	—	—	—, —, 324
FEVER, UNDULANT (Brucellosis) (5)				
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	—	—	147, —, —
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156*, 155
FEVER, YELLOW (38a)				
No cases reported.				
FOOD POISONING (177)				
Deaths :				
Accidental by age and sex Total civilians	—	275	274	278
Ages by sex : Civilians	—	142	141	*144*, 143
Non-civilians	—	146, —	—	—, —, 148
All ages by sex (11 years)	—	26	25	25
Month of Occurrence and sex	—	167	167	*171*, 170

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
FOSSÆ, NASAL AND ANNEXA, DISEASES OF THE (104)				
Deaths :				
Ages by sex : Civilians	—	126	125	127, 128, 127
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164,* 163
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	34	33	33
GANGRENE (98)				
Deaths :				
Ages by sex : Civilians	—	126	125	*127,* 126
Non-civilians	—	—	—	—, 148, —
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164,* 163
Death Rates :				
All ages by sex (11 years)	—	33	32	32
Comparative Mortality Index by sex (10 years)	—	—	40	41
GANGRENE OF LUNG (114c)				
Deaths :				
Ages by sex : Civilians	—	129	128	*130,* 129
Non-civilians	—	—	144	—, —, 147
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	161	161	*165,* 164
GAS GANGRENE (24c)				
Deaths :				
Ages by sex : Civilians	—	113	112	113
Non-civilians	—	144, —	—	—
All ages by sex (11 years)	—	10	9	9
GENERAL PARALYSIS OF THE INSANE (30b)	122			
Deaths :				
Ages by sex : Civilians	—	114	113	113
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	10	9	9
Month of Occurrence and sex	—	153	153	*157,* 156
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	29	28	28
1931–45	123	—	—	—
Sex and age, mean, 1940–45	124	—	—	—
GENITAL ORGANS, FEMALE, DISEASES OF THE (139)				
Deaths :				
Ages : Civilians	—	133	132	*135,* 134
All ages (11 years)	—	22	21	21

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Month of occurrence	—	164	164	*168*, 167
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages (11 years)	—	37	36	36
GENITAL ORGANS, MALE, DISEASES OF THE (except Prostate) (138)				
Deaths :				
Ages : Civilians	—	133	132	*135*, 134
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	22	21	21
Month of Occurrence	—	164	164	*168*, 167
GENITAL ORGANS, FEMALE, TUMOURS OF UNDETERMINED NATURE (57a, b, c)	182			
Deaths :				
Month of Occurrence	—	156	156	*160*, 159
GERMAN MEASLES (38d)				
Deaths :				
Ages by sex : Civilians	—	115	114	115
Non-civilians	—	—	—	147, —, —
All ages by sex (11 years)	—	11	10	10
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	154	154	*158*, 157
GLANDS, ADRENAL, DISEASES OF (not specified as Tuberculous) (65)				
Deaths :				
Ages by sex : Civilians	—	120	119	120
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160*, 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	31	30	30
GLAND, PITUITARY, DISEASES OF (62)				
Deaths :				
Ages by sex : Civilians		119	118	*120*, 119
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160*, 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—
GLANDS, THYROID AND PARATHYROID, DISEASES OF THE (63)				
Deaths :				
Ages by sex : Civilians	—	120	119	*120*, 119
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160*, 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	31	30	30

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
GLIOMA (not specified as Benign) (54a)	182			
Deaths :				
Ages by sex : Civilians	—	118	117	*118,* 117
Non-civilians	—	144	143	*147,* 146
Total, each year, 1940–45	147	—	—	—
All ages by sex (11 years)	—	13	12	12
,, ,, ,, ,, , 1936–45	181	—	—	—
Month of Occurrence and sex	—	155	155	*159,* 158
Death Rates :				
All ages by sex (11 years)	—	30	29	29
GOITRE, EXOPHTHALMIC (63b)	191			
Deaths :				
Ages by sex : Civilians	—	120	119	120
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	14	13	13
Area and sex	—	261	260	264
Month of Occurrence and sex	—	156	156	*160,* 159
Death Rates :				
Ages by sex, yearly, 1931–45	192	—	—	—
,, ,, ,, , mean rates, 1931–33, 1936–38, 1943–45	191	—	—	—
All ages by sex (11 years)	—	31	30	30
Comparative Mortality Figure, by sex, for regions, etc., mean 1940–44 ..	192	—	—	—
Comparative Mortality Index by sex, from 1931	192	—	40	40
Comparative Mortality in groups of areas, persons, 1913–22 and 1940–44	193	—	—	—
GOITRE, SIMPLE (63a)				
Deaths :				
Ages by sex : Civilians	—	120	119	120
Non-civilians	—	144, —	143	147, —, —
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160,* —
Death Rates :				
All ages by sex (11 years)	—	31	30	30
GONOCOCCAL INFECTIONS (25)				
Deaths :				
Ages by sex : Civilians	—	113	112	113
Non-civilians	—	—	—	*147,* —
All ages by sex (11 years)	—	10	9	9
Children under 5 years	—	148	148	*152,* 151
Month of Occurrence and sex	—	153	153	*157,* 156
Pregnancy, associated with, 1937–45 ..	238	—	—	—
GOUT (60)				
Deaths :				
Ages by sex : Civilians	—	119	118	119, 120, 119
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160,* 159

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
HÆMOLYTIC DISEASES OF NEWBORN (161e: 1)	51			
Deaths :				
Ages by sex : Civilians	—	139	138	*141*, 140
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	151	151	*155*, 154
Infants under 1 year (11 years)	—	51	50	50
by age and sex	—	—	—	—, —, 326
Month of Occurrence and sex	—	—	—	*170*, 169
Death Rates :				
Infants under 1 year (11 years) ..	—	52	51	51
by age and sex, 1945	48	—	—	—
by sex and legitimacy, 1940–42, 1943–45	50	—	—	—
Infants under 4 weeks, 1936–45 ..	47	—	—	—
HÆMOPHILIA (72b)				
Deaths :				
Ages by sex : Civilians	—	121	120	121, 122, 121
Non-civilians	—	144, —	—	147, —, —
All ages by sex (11 years)	—	15	14	14
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	157	157	*161*, 160
Pregnancy, associated with, 1937–45 ..	238	—	—	—
HÆMORRHAGE OF CHILDBIRTH (146)	236			
Deaths :				
Age, and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition and outcome of pregnancy, yearly, 1940–45	241	—	—	—
Ages : Civilians	—	135	134	*137*, 136
Non-civilians	—	—, 147	—	—
All ages (11 years)	—	23	22	22
All ages, proportions according to outcome of pregnancy, 1940–45	240	—	—	—
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages related to maternities, 1940–45 ..	236	—	—	—
All ages (11 years)	—	37	36	36
HÆMORRHAGE OF PREGNANCY (148)	236			
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition and outcome of pregnancy, yearly, 1940–45	241	—	—	—
Ages : Civilians	—	135	134	136
All ages (11 years)	—	23	22	22
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages related to estimated pregnancies, 1940–45	237	—	—	—
All ages (11 years)	—	37	36	36

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
HÆMORRHAGIC CONDITIONS (72)				
Deaths :				
Ages by sex : Civilians	—	120	119	121
All ages by sex (11 years)	—	15	14	14
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	157	157	*161*, 160
Death Rates :				
All ages by sex (11 years)	—	31	30	30
Infants under 1 year (11 years) ..	—	52	51	51
HEART DISEASES (90–95)	207			
Deaths :				
Ages by sex : Civilians	—	124	123	*125*, 124
Non-civilians	—	145	144	*148*, 147
Females 25–35, 35–50 years, 1939 and 1945 ..	70	—	—	—
All ages by sex (11 years)	—	17	16	16
Area, age and sex	—	169	169	173
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	159	159	*163*, 162
Death Rates :				
All ages by sex (11 years)	—	32	32	31
Children 1–5 years, 1936–45	63	—	—	—
Comparative Mortality Index by sex (10 years)	—	—	40	40
HEART DISEASE, FUNCTIONAL (without Organic Lesion) (95a)	215			
Deaths :				
Ages by sex : Civilians	—	125	124	126, 127, 126
Non-civilians	—	145	—	148, —, —
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164*, 163
Death Rates :				
All ages by sex (11 years)	—	33	32	32
HEART DISEASE (specified as Rheumatic or Ill-defined) (95b)	182			
Deaths :				
Ages by sex : Civilians	—	125	124	*127*, 126
Non-civilians	—	—	—	—, 148, —
Civilians and non-civilians, 1940–42, 1943, 1943–45	184	—	—	—
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164*, 163
Death Rates :				
Ages by sex, 1940–42, 1943–45	186	—	—	—
All ages by sex (11 years)	—	33	32	32
HELMINTHS, DISEASES DUE TO (40–42)				
Deaths :				
Ages by sex : Civilians	—	116	115	115
Non-civilians	—	144, —	143	—
All ages by sex (11 years)	—	12	11	11
Month of Occurrence and sex	—	154	154	*158*, 157

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
HEMIPLEGIA, AND OTHER PARALYSES OF UNSTATED ORIGIN (83d)				
Deaths :				
Ages by sex : Civilians	—	123	122	*124*, 123
Non-civilians	—	145, —	—	—, 148, —
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	158	158	*162*, 161
Death Rates :				
Ages by sex, 1931–45	202	—	—	—
All ages by sex (11 years)	—	32	31	31
Comparative Mortality Index, by sex, 1931–45	202	—	—	—
HERNIA (122a)				
Deaths :				
Ages by sex : Civilians	—	130	129	*132*, 131
Non-civilians	—	146, 145	145	149, *148*
All ages by sex (11 years)	—	21	20	20
Children under 5 years	—	150	150	*154*, 153
Month of Occurrence and sex	—	162	162	*166*, 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
Comparative Mortality Index by sex (10 years)	—	—	41	41
HERNIA, INTESTINAL OBSTRUCTION (122)				
Deaths :				
Ages by sex : Civilians	—	130	129	*132*, 131
All ages by sex (11 years)	—	21	20	20
Children under 5 years	—	150	150	*154*, 153
Children 1–5 years, 1936–45	63	—	—	—
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	162	162	*166*, 165
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	35	34	34
Infants under 1 year (11 years) ..	—	52	51	51
HERPES ZOSTER (38c)				
Deaths :				
Ages by sex : Civilians	—	115	114	115
All ages by sex (11 years)	—	11	10	10
Month of Occurrence and sex	—	154	154	*158*, 157
HODGKIN'S DISEASE, PERNICIOUS LYMPHOGRANULOMATOSIS (44b)	132			
Deaths :				
Ages by sex : Civilians	—	116	115	*116*, 115
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	12	11	11
,, ,, ,, ,, and region, etc., 1940–44	133	—	—	—
Area and sex	—	261	260	264
Month of Occurrence and sex	—	154	154	*158*, 157
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
Ages by sex, 1911–45	133	—	—	—
All ages by sex (11 years)	133	29	28	28
Comparative Mortality Index by sex (10 years)	—	—	39	39
Comparative Mortality Figure, by sex, for regions, etc., 1940–44	133	—	—	—
HOMICIDE (165–168)				
Deaths :				
Ages by sex : Civilians	—	140	139	*143*, 142
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	25	24	24
Children under 5 years	—	151	151	*155*, 154
Month of Occurrence and sex	—	167	167	*171*, 170
Death Rates :				
All ages by sex (11 years)	—	38	37	37
HYDATID DISEASE (41)				
Deaths :				
Ages by sex : Civilians	—	116	115	115
Non-civilians	—	144, —	—	—, 147, 146
All ages by sex (11 years)	—	12	11	11
Month of Occurrence and sex	—	154	154	*158*, 157
HYDROCEPHALUS, CONGENITAL (157a)				
Deaths :				
Ages by sex : Civilians	—	137	136	*139*, 138
Non-civilians	—	—	145	149, —, —
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	150	150	*154*, 153
Month of Occurrence and sex	—	165	165	*169*, 168
Death Rates :				
All ages by sex (11 years)	—	38	37	37
ILEUS, PARALYTIC (without stated cause) (122b: 2)				
Deaths :				
Ages by sex : Civilians	—	131	130	*132*, 131
All ages by sex (11 years)	—	21	20	20
Month of Occurrence and sex	—	162	162	*166*, 165
ILL-DEFINED CAUSES OF DEATH (199–200)	267			
Deaths :				
Ages by sex : Civilians	—	143	142	*146*, 145
All ages by sex (11 years)	—	27	26	26
Area and sex	—	261	260	264
Inquiries on Indefinitely Certified Causes, Analysis of replies, 1940–45	268	—	—	—
Month of Occurrence and sex	—	168	168	*172*, 171
Death Rates :				
All ages by sex (11 years)	—	39	38	38

	Text Volume	Part I for years 1940, 1941	1942	1943, 1944, 1945
INFANTICIDE (infants under 1 year) (165)				
Deaths :				
Ages by sex	—	140	139	*143,* 142
All ages by sex (11 years)	—	25	24	24
Month of Occurrence and sex	—	167	167	*171,* 170
INFANTS UNDER ONE YEAR, DISEASES PECULIAR TO (158–161)				
Deaths :				
All ages by sex (11 years)	—	24	23	23
Month of Occurrence and sex	—	165	165	*169,* 168
INFARCTION, HÆMORRHAGIC, OF LUNG (111a)				
Deaths :				
Ages by sex : Civilians	—	128	127	*129,* 128
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	19	18	18
Month of Occurrence and sex	—	161	161	*165,* 164
Death Rates :				
All ages by sex (11 years)	—	34	33	33
INFECTION DURING CHILDBIRTH AND PUERPERIUM (147)	234			
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition, and outcome of pregnancy, yearly 1940–45	241	—	—	—
Ages : Civilians	—	135	134	*137,* 136
All ages (11 years)	—	23	22	22
Area	—	261	260	264
Month of Occurrence	—	164	164	*168,* 167
Death Rates :				
Ages related to maternities, 1940–45 ..	236	—	—	—
All ages (11 years)	—	37	36	36
Areas : Civilians	—	45	44	44
INFECTION, GENERALISED, BY BACILLUS COLI (24d)				
Deaths :				
Ages by sex : Civilians	—	113	112	113
Non-civilians	—	—	—	—, —, 146
All ages by sex (11 years)	—	10	9	9
INFECTIONS, GONOCOCCAL (25)				
Deaths :				
Ages by sex : Civilians	—	113	112	113
Non-civilians	—	—	—	*147,* —
All ages by sex (11 years)	—	10	9	9
Children under 5 years	—	148	148	*152,* 151
Month of Occurrence and sex	—	153	153	*157,* 156
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
INFECTIONS OF THE NEWBORN (161c)	50			
Deaths :				
Ages by sex	—	138	137	*141,* 140
All ages by sex (11 years)	—	24	23	23
Month of Occurrence and sex	—	166	166	*170,* 169
Death Rates :				
Infants under 1 year, by sex, 1945 ..	48	—	—	—
INFECTION, PURULENT, AND SEPTICÆMIA (24)				
Deaths :				
Ages by sex : Civilians	—	113	112	112, 113, 112
All ages by sex (11 years)	—	10	9	9
Area and sex	—	261	260	264
Children under 5 years	—	148	148	*152,* 151
Month of Occurrence and sex	—	153	153	*157,* 156
Death Rates :				
All ages by sex (11 years)	—	28	27	27
INFECTIVE DISEASES OTHER THAN TUBERCULOSIS (1–12, 23–44)				
Deaths :				
Infants under 1 year(11 years) ..	—	51	50	50
Death Rates :				
Infants under 1 year (11 years) ..	—	52	51	51
by region and age	—	54	53	53
INFECTIVE AND PARASITIC DISEASES (1–44)				
Deaths :				
Ages by sex : Civilians	—	112	111	111
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156,* 155
Death Rates :				
All ages by sex (11 years)	—	28	27	27
INFLAMMATION OF THE STOMACH (118: 1)	222			
Deaths :				
Ages by sex : Civilians	—	130	129	131
Non-civilians	—	145	—	*148,* 147
All ages by sex (11 years)	—	20	19	19
Children under 5 years	—	149	149	*153,* 152
Children 1–5 years, 1936–45	63	—	—	—
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	162	162	*166,* 165
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
Ages by sex : triennia, 1931–45 ..	224	—	—	—
All ages by sex (11 years)	—	35	34	34
Infants under 1 year (11 years) ..	—	52	51	51

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
INFLUENZA (33)	124			
Deaths :				
Ages by sex : Civilians	—	114	113	114
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	11	10	10
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152,* 151
Deaths :				
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	153	153	*157,* 156
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages by sex : 50–55, 55–65 years, various triennia, 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia, 1931–45 ..	73	—	—	—
females, 1935, 1938, 1942, 1945	127	—	—	—
All ages by sex (11 years)	—	29	28	28
Children 1–5 years, 1911–45	62	—	—	—
Comparative Mortality Index : males, females (10 years)	—	—	39	39
Comparative Mortality Index : persons (from 1891)	—	44	43	43
Quarterly distribution of mortality, with mean air temperatures, 1921–45	126	—	—	—
INTESTINAL OBSTRUCTION (122b)				
Deaths :				
Ages by sex : Civilians	—	130	129	*132,* 131
Non-civilians	—	146, 145	145	149, *148*
All ages by sex (11 years)	—	21	20	20
Children under 5 years	—	150	150	*154,* 153
Month of Occurrence and sex	—	162	162	*166,* 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
Comparative Mortality Index by sex (10 years)	—	—	41	41
INTESTINES, DISEASES OF, EXCEPT HERNIA AND OBSTRUCTION (123)				
Deaths :				
Ages by sex : Civilians	—	131	130	*132,* 131
All ages by sex (11 years)	—	21	20	20
Month of Occurrence and sex	—	162	162	*166,* 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
INTOXICATION DUE TO MATERNAL TOXÆMIA (161b)				
Deaths :				
Ages by sex	—	138	137	*141,* 140
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	151	151	*155,* 154

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Infants under 1 year, by age and sex ..	—	—	—	—, —, 326
Month of Occurrence and sex	—	166	166	*170*, 169
Death Rates :				
Infants under 1 year, by age and sex, 1945	48	—	—	—
INTRA-CRANIAL LESIONS OF VASCULAR ORIGIN (83)	200			
Deaths :				
Ages by sex : Civilians	70	122	121	123
Non-civilians	—	147	147	*151*, 150
Females, 35–50 years, 1939, 1945	70	—	—	—
Various ages under 45 years, 1936–38, 1940–42, 1943–45	203	—	—	—
All ages by sex (11 years)	—	16	15	15
Area, age and sex	—	169	169	173
Month of Occurrence and sex	—	158	158	*162*, 161
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages by sex : with sub-divisions of group 1931–45	201	—	—	—
50–55, 55–65 years, various triennia, 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia, 1931–45 ..	73	—	—	—
All ages by sex (11 years)	—	32	31	31
Comparative Mortality Index by sex (10 years)	201	—	40	40
Comparative Mortality Figure, by sex, for regions, etc., mean 1940–44 ..	204	—	—	—
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 325
INTUSSUSCEPTION (122b : 1)				
Deaths :				
Ages by sex : Civilians	—	131	130	*132*, 131
Non-civilians	—	146, 145	145	—, 148, —
All ages by sex (11 years)	—	21	20	20
Month of Occurrence and sex	—	162	162	*166*, 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
JOINTS, DISEASES OF THE (156a)				
Deaths :				
Ages by sex : Civilians	—	137	136	*139*, 138
Non-civilians	—	146, —	145	*149*, 148
All ages by sex (11 years)	—	23	22	22
Month of Occurrence and sex	—	165	165	*169*, 168

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
JOINTS AND OTHER ORGANS OF MOVEMENT, DISEASES OF (156)				
Deaths :				
Ages by sex : Civilians	—	137	136	*139*, 138
All ages by sex (11 years)	—	23	22	22
Month of Occurrence and sex	—	165	165	*169*, 168
Death Rates :				
All ages by sex (11 years)	—	37	36	36
KIDNEY, CYSTIC DISEASE OF (157h)				
Deaths :				
Ages by sex : Civilians	—	137	136	139, 140, 139
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	150	150	*154*, 153
Month of Occurrence and sex	—	165	165	*169*, 168
LARYNX, DISEASES OF THE (105)				
Deaths :				
Ages by sex : Civilians	—	126	125	127, 128, 127
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	18	17	17
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	160	160	*164*, 163
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	34	33	33
Children 1–5 years, 1936–45	63	—	—	—
LEAD POISONING (78)				
Deaths :				
Ages by sex : Civilians	—	122	121	*123*, 122
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	157	157	*161*, 160
LEPROSY (23)				
Deaths :				
Ages by sex : Civilians	—	113	112	112, 113, —
All ages by sex (11 years)	—	10	9	9
Month of Occurrence and sex	—	153	153	*157*, —
LESIONS, INTRA-CRANIAL, OF VASCULAR ORIGIN (83)	200			
Deaths :				
Ages by sex : Civilians	70	122	121	123
Non-civilians	—	147	147	*151*, 150
Females, 35–50 years, 1939, 1945	70	—	—	—
Various ages under 45 years, 1936–38, 1940–42, 1943–45	203	—	—	—
All ages by sex (11 years)	—	16	15	15
Area, age and sex	—	169	169	173
Month of Occurrence and sex	—	158	158	*162*, 116
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years 1940, 1941	1942	1943, 1944, 1945
Death Rates :				
Ages by sex : with sub-divisions of group, 1931–45 ..	201	—	—	—
50–55, 55–65 years, various triennia 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia 1931–45 ..	73	—	—	—
All ages by sex (11 years)	—	32	31	31
Comparative Mortality Index by sex (10 years)	201	—	40	40
Comparative Mortality Figure, by sex, for regions, etc., mean 1940–44 ..	204	—	—	—
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 325
LEUKÆMIA (74a)	196			
Deaths :				
Ages by sex : Civilians	—	121	120	*122*, 121
Non-civilians	—	144	144	148, *147*
All ages by sex (11 years)	—	15	14	14
Death Rates :				
All ages by sex (11 years)	—	31	30	30
LEUKÆMIA AND ALEUKÆMIA (74)	196			
Deaths :				
Ages by sex : Civilians	—	121	120	*122*, 121
All ages by sex (11 years)	—	15	14	14
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	157	157	*161*, 160
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages by sex, 1931–45	196, 197	—	—	—
All ages by sex (11 years)	—	31	30	30
Comparative Mortality Index by sex (from 1931)	197	—	40	40
LOCOMOTOR ATAXIA (Tabes Dorsalis) (30a)	122			
Deaths :				
Ages by sex : Civilians	—	114	113	113
Non-civilians	—	144, —	—	147, —, 146
All ages by sex (11 years)	—	10	9	9
Month of Occurrence and sex	—	153	153	*157*, 156
Death Rates :				
All ages by sex (11 years)	—	29	28	28
1931–45	123	—	—	—
Sex and Age, mean, 1940–45	124	—	—	—
Sex ratios, by age, 1940–45	123	—	—	—
LUNG, ABSCESS OF (114d)				
Deaths :				
Ages by sex : Civilians	—	129	129	*130*, 129
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	161	161	*165*, 164

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
All ages by sex (11 years)	—	35	34	34
LUNGS, CONGESTION OF (Chronic) (111c)				
Deaths :				
Ages by sex : Civilians	—	128	127	129
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	19	18	18
Month of Occurrence and sex	—	161	161	*165*, 164
Death Rates :				
All ages by sex (11 years)	—	34	33	33
LUNGS, CONGESTION OF, INC. ŒDEMA, HÆMORRHAGIC INFARCTION AND THROMBOSIS OF THE LUNGS (111)				
Deaths :				
Ages by sex : Civilians	—	128	127	*129*, 128
All ages by sex (11 years)	—	19	18	18
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	161	161	*165*, 164
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	34	33	33
Comparative Mortality Index by sex (10 years)	—	—	41	41
LUNG, GANGRENE OF (114c)				
Deaths :				
Ages by sex : Civilians	—	129	128	*130*, 129
Non-civilians	—	—	144	—, —, 147
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	161	161	*165*, 164
LUNG, HÆMORRHAGIC INFARCTION OF (111a)				
Deaths :				
Ages by sex : Civilians	—	128	127	*129*, 128
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	19	18	18
Month of Occurrence and sex	—	161	161	*165*, 164
Death Rates :				
All ages by sex (11 years)	—	34	33	33
LUNG, ŒDEMA OF, ACUTE (111b)				
Deaths :				
Ages by sex : Civilians	—	128	127	129
Non-civilians	—	145	144	148, —, 147
All ages by sex (11 years)	—	19	18	18
Month of Occurrence and sex	—	161	161	*165*, 164

	Text Volume	Part I for years			
		1940, 1941	1942	1943, 1944, 1945	
LYMPHATIC SYSTEM, DISEASES OF (101)					
Deaths :					
Ages by sex : Civilians	—	126	125	*127,*	126
Non-civilians	—	145	144	*148,*	147
All ages by sex (11 years)	—	18	17	17	
Month of Occurrence and sex	—	160	160	*164,*	163
Pregnancy, associated with, 1937–45 ..	239	—	—	—	
LYMPHOGRANULOMATOSIS, PERNICIOUS (Hodgkin's Disease) (44b)	133				
Deaths :					
Ages by sex : Civilians	—	116	115	*116,*	115
Non-civilians	—	144	143	*147,*	146
All ages by sex (11 years)	—	12	11	11	
,, ,, ,, ,, and region, etc., 1940–44	133	—	—	—	
Area and sex	—	261	260	264	
Month of Occurrence and sex	—	154	154	*158,*	157
Pregnancy, associated with, 1937–45 ..	238	—	—	—	
Death Rates :					
Ages by sex, 1911–45	133	—	—	—	
All ages by sex (11 years)	133	29	28	28	
Comparative Mortality Index by sex (10 years)	—	—	39	39	
Comparative Mortality Figure, by sex, for regions, etc., 1940–44	133	—	—	—	
MALARIA (28)					
Deaths :					
Ages by sex : Civilians	—	114	113	113	
Non-civilians	—	144	143	*147,*	146
All ages by sex (11 years)	—	10	9	9	
Month of Occurrence and sex	—	153	153	*157,*	156
Pregnancy, associated with, 1937–45 ..	238	—	—	—	
Notifications :					
Civilians, non-civilians, Port Health Districts (11 years)	—	282	281	285,	*286*
MALFORMATIONS, CONGENITAL (157)	63				
Deaths :					
Ages by sex : Civilians	—	137	136	*139,*	138
Non-civilians	—	147	147	*151,*	150
All ages by sex (11 years)	—	24	23	23	
Children under 5 years	—	150	150	*154,*	153
,, 1–5 years, 1936–45	63	—	—	—	
Infants under 1 year (11 years) ..	—	51	50	50	
by age and sex	—	—	—	—, —,	326
Month of Occurrence and sex	—	165	165	*169,*	168
Pregnancy, associated with, 1937–45 ..	239	—	—	—	
Death Rates :					
All ages by sex (11 years)	—	38	37	37	
Infants under 1 year (11 years) ..	—	52	51	51	
by age and sex, 1945 ..	48	—	—	—	
by regions and age	—	55	54	54	
by regions, with per cent. of England and Wales, 1936–45	52	—	—	—	
Infants under 4 weeks, 1936–45 ..	47	—	—	—	

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
MALFORMATION OF HEART, CONGENITAL (157c)				
Deaths :				
Ages by sex : Civilians	—	137	136	*139*, 138
Non-civilians	—	—, 146	145	*149*, 148
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	150	150	*154*, 153
Month of Occurrence and sex	—	165	165	*169*, 168
Death Rates :				
All ages by sex (11 years)	—	38	37	37
MASTITIS DURING THE PUERPERIUM AND LACTATION (150a)				
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition and outcome of pregnancy, yearly 1940–45	241	—	—	—
Ages : Civilians	—	136	135	*138*, 137
All ages (11 years)	—	23	22	22
Month of occurrence	—	164	164	*168*, 167
Death Rates :				
All ages (11 years)	—	37	36	36
MATERNAL CAUSES (excluding Abortion) (142–150)	231			
Deaths :				
Ages, and civil condition (all ages) yearly 1936–45	232	—	—	—
All ages (11 years)	—	23	22	22
Death Rates :				
All ages by regions, etc., 1940–45 ..	243	—	—	—
All ages (11 years)	—	37	36	36
All ages, with and without sepsis, yearly 1936–45	233	—	—	—
Areas : Civilians	—	45	44	44
MEASLES (35)	127			
Deaths :				
Ages by sex : Civilians	—	115	114	114
Non-civilians	—	144	—	147, —, 146
All ages by sex (11 years)	—	11	10	10
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152*, 151
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	154	154	*158*, 157
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages 0–5, in regions, etc., 1944, 1945 ..	129	—	—	—
All ages by sex (11 years)	—	29	28	28
Areas : Civilians	—	45	44	44
Children 1–5 years, 1911–45	62	—	—	—
Children under 15 years (from 1851) ..	—	44	43	43
Comparative Mortality Index by sex (10 years)	—	—	39	39

	Text Volume	Part I for years 1940, 1941	1942	1943, 1944, 1945
Death Rates—*contd.*				
Infants under 1 year (11 years) ..	47	52	51	51
by region and age	—	54	53	53
by region, and per cent. of England and Wales, 1936–45	52	—	—	—
by sex and legitimacy, 1940–42, 1943–45	50	—	—	—
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	—	282	281	285, *286*
Rates : prevalence, by area (from 1940)	—	280	279	283, 284, 283
prevalence and fatality, by sex and age, 1944, 1945	129	—	—	—
prevalence 0–5, 5–15 years, fatality 0–5 years, in regions, etc., 1944, 1945	129	—	—	—
Seasonal incidence	—	281	280	284, *285*
MEDULLA AND SPINAL CORD, DISEASES OF THE (82)				
Deaths :				
Ages by sex : Civilians	—	122	121	*123*, 122
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	158	158	*162*, 161
Death Rates :				
All ages by sex (11 years)	—	32	31	31
MELÆNA NEONATORUM (161d)				
Deaths :				
Ages by sex	—	139	138	*141*, 140
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	151	151	*155*, 154
Infants under 1 year (11 years) ..	—	51	50	50
by age and sex	—	—	—	—, —, 326
Month of Occurrence and sex	—	166	166	*170*, 169
Death Rates :				
Infants under 1 year (11 years) ..	—	52	51	51
by age and sex, 1945 ..	48	—	—	—
MENINGITIS (Non-meningococcal) (81)	63			
Deaths :				
Ages by sex : Civilians	—	122	121	*123*, 122
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	16	15	15
Children under 5 years, by sex ..	—	149	149	*153*, 152
Children 1–5 years, by sex, 1936–45 ..	63	—	—	—
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	158	158	*162*, 161
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
All ages by sex (11 years)	—	32	31	31
Comparative Mortality Index by sex (10 years)	—	—	40	40
Infants under 1 year	—	52	51	51
MENTAL DISORDERS AND DEFICIENCY (84)				
Deaths :				
Ages by sex : Civilians	—	123	122	*124*, 123
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	158	158	*162*, 161
Death Rates :				
All ages by sex (11 years)	—	32	31	31
MITRAL VALVE, DISEASE OF THE (92b:1)				
Deaths :				
Ages by sex : Civilians	—	124	123	*126*, 125
Non-civilians	—	145	144	*148*, 147
Civilians and non-civilians, 1940–42, 1943–45 ..	184	—	—	—
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	159	159	*163*, 162
Death Rates :				
All ages by sex (11 years)	—	33	32	32
MONSTROSITIES (157d)				
Deaths :				
Ages by sex : Civilians	—	137	136	139
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	150	150	*154*, 153
Month of Occurrence and sex	—	165	165	*169*, 168
MUMPS (44c)				
Deaths :				
Ages by sex : Civilians	—	116	115	*116*, 115
All ages by sex (11 years)	—	12	11	11
Month of Occurrence and sex	—	154	154	*158*, 157
Pregnancy, associated with, 1937–45 ..	238	—	—	—
MUSCLES, DISEASES OF THE (156b : 1)				
Deaths :				
Ages by sex : Civilians	—	137	136	*139*, 138
Non-civilians	—	—	145	—, 149, —
All ages by sex (11 years)	—	23	22	22
MYCOSES (43)				
Deaths :				
Ages by sex : Civilians	—	116	115	115, 116, 115
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	12	11	11
Month of Occurrence and sex	—	154	154	*158*, 157
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
MYOCARDIAL DEGENERATION (93c)	207			
Deaths :				
Ages by sex : Civilians	—	125	124	*126,* 125
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	18	17	17
Area and sex	—	261	260	264
Month of Occurrence and sex	—	159	159	*163,* 162
Death Rates :				
Comparative Mortality Figure by sex, for regions, etc., 1940–44	213	—	—	—
Comparative Mortality Index by sex (10 years)	—	—	40	40
MYOCARDIAL DEGENERATION, DESCRIBED AS FATTY (93c: 2)				
Deaths :				
Ages by sex : Civilians	—	125	124	*126,* 125
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	18	17	17
Area and sex	—	261	260	264
Month of Occurrence and sex	—	159	159	*163,* 162
Death Rates :				
Ages by sex, 1931–45	211	—	—	—
All ages by sex (11 years)	—	33	32	32
Area : Civilians	—	45	44	44
MYOCARDITIS, ACUTE (93a)	207			
Deaths :				
Ages by sex : Civilians	—	125	124	*126,* 125
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	159	159	*163,* 162
Death Rates :				
All ages by sex (11 years)	—	33	32	32
Comparative Mortality Index by sex (10 years)	—	—	40	40
MYOCARDITIS, CHRONIC, SPECIFIED AS RHEUMATIC (93b)	182			
Deaths :				
Ages by sex : Civilians	—	125	124	*126,* 125
Non-civilians	—	145	144	148, —, 147
Civilians and non-civilians, 1940–42, 1943–45 ..	185	—	—	—
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	159	159	*163,* 162
Death Rates :				
All ages by sex (11 years)	—	33	32	32
MYOCARDITIS RHEUMATIC, ACUTE (58c)	182			
Deaths :				
Ages by sex : Civilians	—	119	118	119
Non-civilians	—	144	143	147, —, 146
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160,* 159

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
MYOCARDIUM, DISEASES OF THE (93)				
Deaths :				
Ages by sex : Civilians	—	125	124	*126,* 125
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	159	159	*163,* 162
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	33	32	32
Comparative Mortality Index by sex (10 years)	—	—	40	40
Standardized on Great Britain population: males, females, persons, 1941–45	—	—	—	—, —, 325
MYXŒDEMA AND CRETINISM (63c)	193			
Deaths :				
Ages by sex : Civilians	—	120	119	120
All ages by sex (11 years)	—	14	13	13
Comparison of age distribution, 1939–40 and 1941–42	194	—	—	—
Month of Occurrence and sex	—	156	156	*160,* 159
Death Rates :				
All ages by sex (11 years)	—	31	30	30
NARCOTICS, CHRONIC POISONING BY (79ba)				
Deaths :				
Ages by sex : Civilians	—	122	—	*123,* 122
Non-civilians	—	—	—	148, —, —
All ages by sex (11 years)	—	16	15	15
NASAL FOSSÆ AND ANNEXA, DISEASES OF THE (104)				
Deaths :				
Ages by sex : Civilians	—	126	125	127, 128, 127
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164,* 163
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	34	33	33
NEOPLASMS OF BRAIN AND NERVOUS SYSTEM (54, 56d, and 57d)	181			
Deaths and Death Rates :				
All ages by sex, yearly, 1936–45 ..	181	—	—	—
Mean annual deaths in 1943–45, compared with 1936–39	182	—	—	—
NEPHRITIS (all forms) (130–132)	228			
Deaths :				
Ages by sex : Civilians	—	132	131	*133,* 132
Non-civilians	—	147	147	*151,* 150
Total, 1939, 1942, 1945	67	—	—	—
All ages by sex (11 years)	—	21	20	20

(86504) N

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Area, age and sex	—	169	169	173
Children under 5 years	—	150	150	*154*, 153
Month of Occurrence and sex	—	163	163	*167*, 166
Death Rates :				
Ages by sex : 1931–45	230	—	—	—
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	—	—	41	41
Standardized on Great Britain population: males, females, persons, 1941–45	—	—	—	—, —, 325
NEPHRITIS, ACUTE (130)	229			
Deaths :				
Ages by sex : Civilians	—	132	131	133
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	21	20	20
Children 1–5 years, 1936–45	63	—	—	—
Month of Occurrence and sex	—	163	163	*167*, 166
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
Ages by sex : triennia 1931–45 ..	230	—	—	—
per cent. decreases between 1934–36 and 1943–45	229	—	—	—
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	—	—	42	42
NEPHRITIS, CHRONIC (131)	229			
Deaths :				
Ages by sex : Civilians	—	132	131	133
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	21	20	20
Month of Occurrence and sex	—	163	163	*167*, 166
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	—	—	42	42
NEPHRITIS, NOT STATED TO BE ACUTE OR CHRONIC (over 10 years of age) (132)	229			
Deaths :				
Ages by sex : Civilians	—	132	131	*134*, 133
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	22	21	21
Month of Occurrence and sex	—	163	163	*167*, 166
Death Rates :				
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	—	—	42	42

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
NERVOUS SYSTEM AND SENSE ORGANS, DISEASES OF (80–89)	200			
Deaths :				
Ages by sex : Civilians	—	122	121	*123*, 122
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	157	157	*161*, 160
Death Rates :				
All ages by sex (11 years)	—	32	31	31
OBSTRUCTION, INTESTINAL (122b)				
Deaths :				
Ages by sex : Civilians	—	130	129	*132*, 131
Non-civilians	—	146, 145	145	149, *148*
All ages by sex (11 years)	—	21	20	20
Children under 5 years	—	150	150	*154*, 153
Month of Occurrence and sex	—	162	162	*166*, 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
Comparative Mortality Index by sex (10 years)	—	—	41	41
ŒDEMA OF LUNG (Acute) (111b)				
Deaths :				
Ages by sex : Civilians	—	128	127	129
Non-civilians	—	145	144	148, —, 147
All ages by sex (11 years)	—	19	18	18
Month of Occurrence and sex	—	161	161	*165*, 164
ŒSOPHAGUS, DISEASES OF THE (116)				
Deaths :				
Ages by sex : Civilians	—	130	129	*131*, 130
Non-civilians	—	—, 145	144	148, —, —
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	162	162	*166*, 165
Pregnancy, associated with, 1937–45 ..	239	—	—	—
OPHTHALMIA NEONATORUM (25 pt.)				
Notifications :				
Numbers : area	—	283	282	286, *288*
civilians, non-civilians and Port Health Districts (11 years)	—	282	281	285, *286*
OSTEOMALACIA (66a)				
Deaths :				
Ages by sex : Civilians	—	120	119	*121*, 120
All ages by sex (11 years)	—	14	13	13

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
OSTEOMYELITIS AND PERIOSTITIS (154)				
Deaths :				
Ages by sex : Civilians	—	136	135	*139,* 138
Non-civilians	—	146	145	*149,* 148
All ages by sex (11 years)	—	23	22	22
Children under 5 years	—	150	150	*154,* 153
Month of Occurrence and sex	—	165	165	*169,* 168
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	37	36	36
Comparative Mortality Index by sex (10 years)	—	—	42	42
OVARIES, DISEASES OF THE (139a)				
Deaths :				
Ages : Civilians	—	133	132	*135,* 134
All ages (11 years)	—	22	21	21
Month of Occurrence	—	164	164	*168,* 167
Death Rates :				
All ages (11 years)	—	37	36	36
PALATE, CLEFT, HARELIP (157f)				
Deaths :				
Ages by sex : Civilians	—	137	136	139, 140, 139
Non-civilians	—	146	—	—
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	150	150	*154,* 153
Month of Occurrence and sex	—	165	165	*169,* 168
PANCREAS, DISEASES OF THE (other than Diabetes) (128)				
Deaths :				
Ages by sex : Civilians	—	132	131	*133,* 132
Non-civilians	—	146	145	*149,* 148
All ages by sex (11 years)	—	21	20	20
Month of Occurrence and sex	—	163	163	*167,* 166
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	—	—	41	41
PARALYSIS AGITANS (87c)	205			
Deaths :				
Ages by sex : Civilians	—	123	122	124
Non-civilians	—	145, —	—	—
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	158	158	*162,* 161
Death Rates :				
Ages by sex, yearly, 1937–45	205	—	—	—
All ages by sex (11 years)	—	32	31	31
Comparative Mortality Index by sex (10 years)	205	—	40	40

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
PARATYPHOID FEVER (2)	87			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	—	—, 147, —
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156,* 155
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	—	282	281	285, *286*
ratios of corrected to original notifications, by area 1944–45	86	—	—	—
Rates : prevalence, by area (from 1940)	—	279	278	282
prevalence and fatality, by area, 1940–45	88	—	—	—
prevalence and fatality, by sex and age, 1944, 1945 ..	89	—	—	—
Seasonal incidence	—	281	280	284, *285*
PELLAGRA (69)				
Deaths :				
Ages by sex : Civilians	—	120	119	121
Non-civilians	—	—	143	—
All ages by sex (11 years)	—	15	14	14
Month of Occurrence and sex	—	157	157	*161,* 160
PEMPHIGUS NEONATORUM (161c : 2)				
Deaths :				
Ages by sex : Civilians	—	139	140	*141,* 140
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	151	151	*155,* 154
Infants under 1 year (11 years) ..	—	51	50	50
by age and sex	—	—	—	—, —, 326
Month of Occurrence and sex	—	166	166	*170,* 169
Death Rates :				
Infants under 1 year (11 years) ..	—	52	51	51
by age and sex, 1945	48	—	—	—
PERICARDITIS (90)	207			
Deaths :				
Ages by sex : Civilians	—	124	123	*125,* 124
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	159	159	*163,* 162
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	32	31	31
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 325

86504)

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
PERICARDITIS, CHRONIC (specified as Rheumatic) (90a)				
Deaths :				
Ages by sex : Civilians	—	124	123	*125,* 124
Non-civilians	—	—	—	—, 148, —
Civilians and non-civilians, 1940–42, 1943–45 ..	184	—	—	—
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	159	159	*163,* 162
PERICARDITIS RHEUMATIC, ACUTE (58a)	182			
Deaths :				
Ages by sex : Civilians	—	119	118	119
Non-civilians	—	144, —	143	—
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160,* 159
PERITONITIS (without stated cause) (129)				
Deaths :				
Ages by sex : Civilians	—	132	131	*133,* 132
Non-civilians	—	146	145	*149,* 148
All ages by sex (11 years)	—	21	20	20
Children under 5 years	—	150	150	*154,* 153
Month of Occurrence and sex	—	163	163	*167,* 166
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	36	35	35
Comparative Mortality Index by sex (10 years)	—	—	41	41
PHARYNX AND TONSILS (115b, c)				
Deaths :				
Ages by sex : Civilians	—	129	128	*131,* 130
Non-civilians	—	145	144	*148,* 147
All ages by sex (11 years)	—	20	19	19
Area and sex	—	261	260	264
Month of Occurrence and sex	—	162	162	*166,* 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
Children, 1–5 years, 1936–45	63	—	—	—
Comparative Mortality Figure, by sex, for regions, etc., 1940–44	220	—	—	—
" PINK " DISEASE (66b : 1)				
Deaths :				
Ages by sex : Civilians	—	120	119	*121,* 120
All ages by sex (11 years)	—	14	13	13
Children under 5 years	—	148	148	*152,* 151
Month of Occurrence and sex	—	157	157	*161,* 160
PITUITARY GLAND, DISEASES OF (62)				
Deaths :				
Ages by sex : Civilians	—	119	118	*120,* 119
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160,* 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years 1940, 1941	1942	1943, 1944, 1945
PLACENTA PRÆVIA (with Childbirth) (146a)	236			
Deaths :				
Age, and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition, and outcome of pregnancy, yearly 1940–45	241	—	—	—
Ages : Civilians	—	135	134	*137*, 136
All ages (11 years)	—	23	22	22
All ages, proportions according to outcome of pregnancy, 1940–45	240	—	—	—
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages, related to maternities, 1940–45 ..	236	—	—	—
PLAGUE (3)				
Notifications :				
Numbers : civilians, non-civilians and Port Health Districts (11 years) ..	—	282	—	—
PLEURISY (110)	221			
Deaths :				
Ages by sex : Civilians	—	128	127	*129*, 128
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	19	18	18
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	161	161	*165*, 164
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
All ages by sex (11 years)	—	34	33	33
Comparative Mortality Index by sex (10 years)	—	—	41	41
PNEUMONIA (all forms) (107–109)	217			
Deaths :				
Ages by sex : Civilians	—	127	126	*128*, 127
Non-civilians	—	147	147	*151*, 150
All ages by sex (11 years)	—	19	18	18
Area, age and sex	—	169	169	173
Children under 5 years	—	149	149	*153*, 152
Infants under 1 year (11 years) ..	—	51	50	50
by age and sex..	—	—	—	—, —, 326
Month of Occurrence and sex	—	160	160	*164*, 163
Death Rates :				
Ages by sex : (a) lobar (b) broncho— and unspecified, yearly 1931–45	218	—	—	—
50–55, 55–65 years, various triennia, 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia, 1931–45 ..	73	—	—	—
50 years and over, 1943–45, rates per cent of 1931–33 rates	75	—	—	—
All ages by sex (11 years)	—	34	33	33
Children 5–10, 10–15 years, by sex, 1936–45	64	—	—	—

(86504) N 4

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates—*contd.*				
Comparative Mortality Figure by sex for regions, etc., 1940–44	220	—	—	—
Comparative Mortality Index by sex (10 years)	—	—	41	41
Comparative Mortality Index, persons (from 1911)	—	44	43	43
Infants under 1 year (11 years) ..	—	52	51	51
by region and age	—	55	54	54
by age and sex, 1945	48	—	—	—
Infants under 4 weeks, yearly 1936–45	47	—	—	—
Quarterly standardized mortality, 1921–45	126	—	—	—
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 325
PNEUMONIA, ACUTE (Primary and Influenzal) (33a: 1, 107–109)				
Notifications :				
Numbers : age and sex	—	—	—	—, —, 287
area	—	283	282	—, *288*
civilians, non-civilians and Port Health Districts (11 years)	—	282	281	—, *286*
PNEUMONIA, INTERSTITIAL, CHRONIC, NOT SPECIFIED AS OCCUPATIONAL (114e: 1)				
Deaths :				
Ages by sex : Civilians	—	129	128	*130*, 129
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	161	161	*165*, 164
Death Rates :				
All ages by sex (11 years)	—	35	34	34
PNEUMONIA, LOBAR (108)	217			
Deaths :				
Ages by sex : Civilians	—	127	126	128, 129, 128
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	19	18	18
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	161	161	*165*, 164
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
Ages by sex : yearly, 1931–45 ..	218	—	—	—
percentage changes 1937–39, 1939–45	213	—	—	—
All ages by sex (11 years)	—	34	33	33
Comparative Mortality Index by sex (10 years)	—	—	41	41

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
POISONING, CHRONIC, AND INTOXICATION (77–79)				
Deaths :				
Ages by sex : Civilians	—	122	121	122, 123, 122
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	157	157	*161*, 160
Death Rates :				
All ages by sex (11 years)	—	32	31	31
POISONING, CHRONIC, BY MINERAL AND ORGANIC SUBSTANCES (other than lead) (79)				
Deaths :				
Ages by sex : Civilians	—	122	121	*123*, 122
Non-civilians	—	—, 145	—	—
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	157	157	*161*, 160
POLIOENCEPHALITIS, ACUTE (36 : 2)	130			
Deaths :				
Ages by sex : Civilians	130	115	114	*115*, 114
Non-civilians	—	144	143	—
All ages by sex (11 years)	—	11	10	10
,, ,, persons (from 1931)	131	—	—	—
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	154	154	*158*, 157
Notifications :				
Numbers : age and sex..	130	—	—	—, 324, 287
civilians, non-civilians, Port Health Districts (11 years)	131	282	281	285, *286*
Rates : fatality, 1931–45	130	—	—	—
POLIOMYELITIS, ACUTE (36 : 1)	130			
Deaths :				
Ages by sex : Civilians	130	115	114	*115*, 114
Non-civilians	—	—, 144	143	*147*, 146
All ages by sex (11 years)	—	11	10	10
,, ,, persons (from 1931)	131	—	—	—
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	154	154	*158*, 157
Notifications :				
Numbers : age and sex..	130	—	—	—, 324, 287
civilians, non-civilians, Port Health Districts (11 years)	131	282	281	285, *286*
Rates : fatality, 1931–45	130	—	—	—
POLIOMYELITIS AND POLIOENCEPHALITIS, ACUTE (36)	130			
Deaths :				
Ages by sex : Civilians	—	115	114	114, 115, 114
Non-civilians	—	147	147	*151*, 150
Percentage distribution by age, 1926–45 (persons)	132	—	—	—
All ages by sex (11 years)	—	11	10	10

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	154	154	*158*, 157
Death Rates :				
All ages by sex (11 years)	131	29	28	28
Children under 15 years (from 1911) ..	131	44	43	43
Comparative Mortality Index by sex (10 years)	—	—	39	39
Notifications :				
Numbers : area	—	283	282	286, *288*
percentage distribution at ages, mean 1944–45 ..	132	—	—	—
ratios of corrected to original notifications, in regions, etc., 1944–45	86	—	—	—
Rates : prevalence, by area (11 years) ..	—	280	279	283, *284*
prevalence and fatality, by age, mean 1944–45	130	—	—	—
PREGNANCY AND CHILDBIRTH, DISEASES OF (140–150)	231			
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition, and outcome of pregnancy, yearly 1940–45	241	—	—	—
Ages : Civilians	—	134	133	*135*, 134
Non-civilians	—	147	146	*150*, 149
Percentage age distribution, by outcome of pregnancy, 1940–45	240	—	—	—
25–35 years, 1939, 1945 ..	70	—	—	—
All ages (11 years)	—	22	21	21
Area and age	—	169	169	*171*, 173
Cæsarean Section, with mention of, yearly, 1940–45	240	—	—	—
Month of occurrence	—	164	164	*168*, 167
Previous fertility and outcome of pregnancy, married women, 1940–45	242	—	—	—
Death Rates :				
All ages by region, etc., 1940–45 ..	243	—	—	—
PROSTATE, DISEASES OF THE (137)	231			
Deaths :				
Ages : Civilians	—	133	132	134, 135, 134
Non-civilians	—	146	145	*149*, 148
All ages (11 years)	—	22	21	21
Area	—	261	260	264
Month of occurrence	—	164	164	*168*, 167
Death Rates :				
Ages : yearly 1931–45	231	—	—	—
Ages : percentage changes between 1931–33, and 1943–45	231	—	—	—
All ages (11 years)	—	37	36	36
Comparative Mortality Index (10 years)	—	—	42	42

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
PROTOZOA, DISEASES DUE TO (28–29)				
Deaths :				
Ages by sex : Civilians	—	114	113	113
All ages by sex (11 years)	—	10	9	9
Month of Occurrence and sex	—	153	153	*157,* 156
PSYCHOSES, PUERPERAL (150b)				
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition and outcome of pregnancy, yearly 1940–45	241	—	—	—
Ages : Civilians	—	136	135	*138,* 137
All ages (11 years)	—	23	22	22
Month of Occurrence	—	164	164	*168,* 167
Death Rates :				
All ages (11 years)	—	37	36	36
PUERPERAL FEVER AND PYREXIA (147b)	242			
Death Rates :				
All ages by region, etc., 1940–45 ..	243	—	—	—
Notifications :				
Numbers : area	—	283	282	286, *288*
civilians, non-civilians and Port Health Districts (11 years)	—	282	281	285, *286*
Rates : prevalence by area (11 years)	—	280	279	283, *284*
PURPURA, PRIMARY (72a)				
Deaths :				
Ages by sex : Civilians	—	121	120	121
Non-civilians	—	144	143	147
All ages by sex (11 years)	—	15	14	14
Children under 5 years	—	149	149	*153,* 152
Month of Occurrence and sex	—	157	157	*161,* 160
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	31	30	30
PURULENT INFECTION AND SEPTICÆMIA (24)				
Deaths :				
Ages by sex : Civilians	—	113	112	112, 113, 112
All ages by sex (11 years)	—	10	9	9
Area and sex	—	261	260	264
Children under 5 years	—	148	148	*152,* 151
Month of Occurrence and sex	—	153	153	*157,* 156
Death Rates :				
All ages by sex (11 years)	—	28	27	27
PUSTULE AND ANTHRAX, MALIGNANT (7)				
Deaths :				
Ages by sex : Civilians	—	112	111	*111,* —
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156,* —

	Text Volume	Part I for years			
		1940, 1941	1942	1943, 1944, 1945	
PYÆMIA (24b)					
Deaths :					
Ages by sex : Civilians	—	113	112	*113,*	112
Non-civilians	—	144	143	*147,*	146
All ages by sex (11 years)	—	10	9	9	
PYELITIS, PYELONEPHRITIS, PYELOCYSTITIS (133a)					
Deaths :					
Ages by sex : Civilians	—	132	131	*134,*	133
Non-civilians	—	146	145	*149,*	148
All ages by sex (11 years)	—	22	21	21	
Children under 5 years	—	150	150	*154,*	153
Month of Occurrence and sex	—	163	163	*167,*	166
Death Rates :					
All ages by sex (11 years)	—	36	35	35	
PYLORIC STENOSIS, CONGENITAL (157e)					
Deaths :					
Ages by sex : Civilians	—	137	136	139	
All ages by sex (11 years)	—	24	23	23	
Children under 5 years	—	150	150	*154,*	153
Month of Occurrence and sex	—	165	165	*169,*	168
Death Rates :					
All ages by sex (11 years)	—	38	37	37	
RABIES (38b)					
No cases reported.					
RELAPSING FEVER (31)					
Deaths :					
Ages by sex : Civilians	—	114, —	—	—	
All ages by sex (11 years)	—	11	10	10	
Notifications :					
Numbers : civilians, non-civilians and Port Health Districts (11 years)	—	282	281	285,	*286*
RESPIRATORY SYSTEM, DISEASES OF (104–114)					
Deaths :					
Ages by sex : Civilians	—	126	125	127	
Females 25–35, 35–50 years, 1939, 1945 ..	70	—	—	—	
All ages by sex (11 years)	—	18	17	17	
Month of Occurrence and sex	—	160	160	*164,*	163
Death Rates :					
All ages by sex (11 years)	—	34	33	33	
Comparative Mortality Index by sex (10 years)	—	—	41	41	

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
RHEUMATIC FEVER (58)	182			
Deaths :				
Ages by sex : Civilians	—	119	118	119
Non-civilians	—	144	143	147, —, —
Civilians and non-civilians, 1940–42, 1943–45 ..	184	—	—	—
All ages by sex (11 years)	—	13	12	12
Area and sex	—	261	260	264
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	156	156	*160*, 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages by sex, with and without heart involvement, yearly 1940–45 ..	183	—	—	—
Ages by sex, with heart involvement, mean 1940–42, 1943–45	186	—	—	—
All ages by sex (11 years)	—	31	30	30
Children 1–5 years, by sex, 1936–45 ..	63	—	—	—
Comparative Mortality Index by sex (10 years)	182	—	40	40
RHEUMATISM AND OTHER GENERAL DISEASES (58–71)				
Deaths :				
Ages by sex : Civilians	—	119	118	119
All ages by sex (11 years)	—	13	12	12
Month of Occurrence and sex	—	156	156	*160*, 159
Death Rates :				
All ages by sex (11 years)	—	31	30	30
RHEUMATISM, OTHER CHRONIC, ARTICULAR (59b)	186			
Deaths :				
Ages by sex : Civilians	—	119	118	119
Non-civilians	—	—	—	—, —, 146
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160*, 159
Death Rates :				
Ages by sex, 1939–45	188	—	—	—
All ages by sex (11 years)	—	31	30	30
RHEUMATISM, OTHER CHRONIC (59c)				
Deaths :				
Ages by sex : Civilians	—	119	118	119, 120, 119
Non-civilians	—	—	—	—, —, 146
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160*, 159
RHEUMATOID ARTHRITIS (59a)	186			
Deaths :				
Ages by sex : Civilians	—	119	118	119
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160*, 159
Death Rates :				
Ages by sex, 1939–45	188	—	—	—
All ages by sex (11 years)	—	31	30	30

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
RICKETS (70)	194			
Deaths :				
Ages by sex : Civilians	—	120	119	121
All ages by sex (11 years)	—	15	14	14
Children under 5 years	—	149	149	*153*, 152
Children 1–5 years, by sex, 1936–45 ..	63	—	—	—
Month of Occurrence and sex	—	157	157	*161*, 160
Pregnancy, associated with, 1937–45 ..	238	—	—	—
SARCOMA (of Brain, etc.) (54b)				
Deaths :				
Ages by sex : Civilians	—	118	117	*118*, 117
Non-civilians	—	144	143	*147*, —
All ages by sex (11 years)	—	13	12	12
Month of Occurrence and sex	—	155	155	*159*, 158
SCARLET FEVER (8)	93			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	143	*147*, 151
All ages by sex (11 years)	—	9	8	8
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	152	152	*156*, 155
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	28	27	27
Areas : Civilians	—	45	44	44
Children 1–5 years, 1911–45	62	—	—	—
Children under 15 years (from 1861) ..	—	44	43	43
Comparative Mortality Index by sex (10 years)	—	—	39	39
Notifications :				
Numbers : age and sex..	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts ..	—	282	281	285, *286*
ratios of corrected to original notifications, by region, etc., 1944–45	86	—	—	—
Rates : prevalence, by area (11 years)	—	279	278	282
prevalence by region, etc., at ages 0–5, 5–15, 1944, 1945 ..	94	—	—	—
prevalence and fatality, by age and sex, 1944, 1945 ..	95	—	—	—
fatality, by region, etc., 1940–45	94	—	—	—
Seasonal incidence	—	281	280	284, *285*
SCLEROSIS, DISSEMINATED (87d)				
Deaths :				
Ages by sex : Civilians	—	123	122	124, 125, 124
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	158	158	*162*, 161
Pregnancy, associated with, 1937–45 ..	238	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
All ages by sex (11 years)	—	32	31	31
Comparative Mortality Index by sex (10 years)	—	—	40	40
SCURVY (67)				
Deaths :				
Ages by sex : Civilians	—	120	119	121
All ages by sex (11 years)	—	15	14	14
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	157	157	*161*, 160
Pregnancy, associated with, 1937–45 ..	238	—	—	—
SENILITY, OLD AGE (162)	207			
Deaths :				
Ages by sex : Civilians	—	139	138	*141*, 140
All ages by sex (11 years)	—	25	24	24
Area and sex	—	261	260	264
Month of Occurrence and sex	—	166	166	*170*, 169
Death Rates :				
Ages by sex (without mention of psychosis), triennia, 1931–45.. ..	211	—	—	—
All ages by sex (11 years)	—	38	37	37
Comparative Mortality Figure, by sex, for regions, etc., 1940–44	213	—	—	—
Comparative Mortality Index by sex (10 years)	—	—	42	42
SEPSIS, PUERPERAL AND POST-ABORTIVE (140, 147)	242			
Deaths :				
Ages Non-civilians	—	—	147	*151*, 150
Area and age	—	169	169	173
SEPTICÆMIA (24a)				
Deaths :				
Ages by sex : Civilians	—	113	112	*113*, 112
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	10	9	9
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	28	27	27
SILICOSIS, AND OTHER OCCUPATIONAL PNEUMOCONIOSES (114a)	221			
Deaths :				
Ages by sex : Civilians	—	129	128	*130*, 129
Males, yearly, 1939–45 ..	222	—	—	—
Males, 1939, 1942, 1945..	221	—	—	—
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	161	161	*165*, 164
Death Rates :				
Ages (males), including deaths, with mention of tuberculosis, yearly, 1939–45	222	—	—	—
All ages by sex (11 years)	—	35	34	34

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
SILICOSIS, OTHER OCCUPATIONAL PNEUMOCONIOSES AND CHRONIC INTERSTITIAL PNEUMONIA (not specified as Occupational) (**114a, e : 1**)				
Death Rates :				
Comparative Mortality Index by sex (10 years)	—	—	41	41
SKIN AND CELLULAR TISSUE, DISEASES OF (151–153)				
Deaths :				
Ages by sex : Civilians	—	136	135	*138*, 138
All ages by sex (11 years)	—	23	22	22
Month of Occurrence and sex	—	165	165	*169*, 168
Death Rates :				
All ages by sex (11 years)	—	37	36	36
SMALLPOX (34)				
Deaths :				
Ages by sex : Civilians	—	—	—	—, 114, —
All ages by sex (11 years)	—	11	10	10
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
civilians, non-civilians and Port Health Districts (11 years)	—	282	281	285, *286*
SOPORIFICS, CHRONIC POISONING BY (79bb)				
Deaths :				
Ages by sex : Civilians	—	122	121	—, 123, 122
All ages by sex (11 years)	—	16	15	15
SPINA BIFIDA AND MENINGOCELE (157b)				
Deaths :				
Ages by sex : Civilians	—	137	136	*139*, 138
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	150	150	*154*, 153
Month of Occurrence and sex	—	165	165	*169*, 168
Death Rates :				
All ages by sex (11 years)	—	38	37	37
SPINAL CORD AND MEDULLA, DISEASES OF THE (82)				
Deaths :				
Ages by sex : Civilians	—	122	121	*123*, 122
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	16	15	15
Month of Occurrence and sex	—	158	158	*162*, 161
Death Rates :				
All ages by sex (11 years)	—	32	31	31

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
SPIROCHÆTOSIS ICTERO-HÆMORRHAGICA (Weil's Disease) (32a)	124			
Deaths :				
Ages by sex : Civilians	—	114	113	*114*, 113
Non-civilians	—	144	143	*147*, 146
1931–45	125	—	—	—
All ages by sex (11 years)	—	11	10	10
Month of Occurrence and sex	—	153	153	*157*, 156
SPLEEN, DISEASES OF THE (75)				
Deaths :				
Ages by sex : Civilians	—	121	120	122
Non-civilians	—	144	144	148, *147*
All ages by sex (11 years)	—	15	14	14
Month of Occurrence and sex	—	157	157	*161*, 160
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	32	31	31
STEATORRHŒA, IDIOPATHIC (66b : 2)	194			
Deaths :				
Ages by sex : Civilians	—	120	119	*121*, 120
Non-civilians	—	—	143	—, *147*
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	157	157	*161*, 160
STOMACH, DISEASES OF THE (except ulcers) (118)				
Deaths :				
Ages by sex : Civilians	—	130	129	131
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	162	162	*166*, 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
Comparative Mortality Index by sex (10 years)	—	—	41	41
STRICTURE OF THE URETHRA (136a)				
Deaths :				
Ages by sex : Civilians	—	133	132	134
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	22	21	21
Month of Occurrence and sex	—	163	163	*167*, 166
Death Rates :				
All ages by sex (11 years)	—	37	36	36
Comparative Mortality Index by sex (10 years)	—	—	42	42
SUDDEN DEATH (199)				
Deaths :				
Ages by sex : Civilians	—	143	142	*146*, 145
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172*, 171

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
All ages by sex (11 years)	—	39	38	38
SUICIDE (163–164)	243			
Deaths :				
Ages by sex : Civilians	—	139	138	141
Non-civilians	—	147	147	*151*, 150
Civilians and non-civilians, yearly, 1940–45 ..	244	—	—	—
All ages by sex (11 years)	—	25	24	24
,, ,, ,, ,, , with form of suicide, 1935, 1940, 1945 ..	246	—	—	—
Area, age and sex	—	169	169	173
Month of Occurrence and sex	—	166	166	*170*, 169
Death Rates :				
Ages by sex : mean annaul rates, 1861–1945	245	—	—	—
quinquennial mean rates, 1921–45	244	—	—	—
percentage changes, 1941–45 and 1901–10 ..	244	—	—	—
All ages by sex (11 years)	—	38	37	37
Comparative Mortality Index by sex (10 years)	245	—	42	42
SUICIDE BY MEANS OTHER THAN POISONING (164)				
Deaths :				
Ages by sex : Civilians	—	140	139	*143*, 141
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	25	24	24
,, ,, ,, ,, , with form of suicide, 1935, 1940, 1945	246	—	—	—
Month of Occurrence and sex	—	166	166	*170*, 169
Death Rates :				
All ages by sex (11 years)	—	38	37	37
SUICIDE BY POISONING (163)				
Deaths :				
Ages by sex : Civilians	—	139	138	141, 142, 141
Non-civilians	—	146	145	*149*, 148
All ages by sex (11 years)	—	25	24	24
,, ,, ,, ,, , with form of poisoning, 1935, 1940, 1945 ..	246	—	—	—
Month of Occurrence and sex	—	166	166	*170*, 169
Death Rates :				
All ages by sex (11 years)	—	38	37	37
SYPHILIS (30)	122			
Deaths :				
Ages by sex : Civilians	—	114	113	113
Non-civilians	—	114	143	*147*, 146
All ages by sex (11 years)	—	10	9	9
Area, age and sex	—	169	169	173
Month of Occurrence and sex	—	153	153	*157*, 156

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
Ages by sex, with sub-divisions of group, mean, 1940–45 ..	124	—	—	—
sex-ratios, mean, 1940–45	123	—	—	—
in classes of area, 1940–41	124	—	—	—
All ages by sex (11 years)	—	28	27	27
Comparative Mortality Index : persons (from 1901)	—	44	43	43
Comparative Mortality Index by sex (from 1931)	123	—	39	39
Proportionate Mortality, by sex and age, for regions, etc., 1940–45	125	—	—	—
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 324
SYPHILIS, CONGENITAL (30d a)				
Deaths :				
Ages by sex : Civilians	—	114	113	*114*, 113
Non-civilians	—	—	143	*147*, —
All ages by sex (11 years)	—	10	9	9
Children under 5 years	—	148	148	*152*, 151
Infants under 1 year (11 years)	—	51	50	50
Month of Occurrence and sex	—	153	153	*157*, 156
Death Rates :				
All ages by sex (11 years)	—	29	28	28
Infants under 1 year (11 years)	—	52	51	51
1931–45	123	—	—	—
Sex and age	124	—	—	—
Sex ratios, by age, 1940–45	123	—	—	—
TEETH AND GUMS, DISEASES OF THE (115a)				
Deaths :				
Ages by sex : Civilians	—	129	128	130, 131, 130
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	20	19	19
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	161	161	*165*, 164
Death Rates :				
All ages by sex (11 years)	—	35	34	34
TETANUS (12)				
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	—	—	—, 147, —
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156*, 155
Pregnancy, associated with, 1937–45 ..	238	—	—	—
THROAT, SEPTIC SORE (115b)	222			
Deaths :				
Ages by sex : Civilians	—	129	128	130, 131, 130
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	20	19	19

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Deaths—*contd.*				
Children under 5 years	—	149	149	*153*, 152
Month of Occurrence and sex	—	162	162	*166*, 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
THYMUS, DISEASES OF (including Status Lymphaticus) (64)				
Deaths :				
Ages by sex : Civilians	—	120	119	120
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	14	13	13
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	156	156	*160*, 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—
THYROID AND PARATHYROID GLANDS, DISEASES OF (63)				
Deaths :				
Ages by sex : Civilians	—	120	119	*120*, 119
All ages by sex (11 years)	—	14	13	13
Month of Occurrence and sex	—	156	156	*160*, 159
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	31	30	30
TOXÆMIA, MATERNAL, INTOXICATION DUE TO (161b)				
Deaths :				
Ages by sex	—	138	137	*141*, 140
All ages by sex (11 years)	—	24	23	23
Children under 5 years	—	151	151	*155*, 154
Infants under 1 year, by age and sex	—	—	—	—, —, 326
Month of Occurrence and sex	—	166	166	*170*, 169
Death Rates :				
Infants under 1 year, by age and sex, 1945	48	—	—	—
TOXÆMIA OF PREGNANCY (144)				
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition and outcome of pregnancy, yearly 1940–45	241	—	—	—
Ages : Civilians	—	135	134	136, 137, 136
All ages (11 years)	—	23	22	22
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages related to estimated pregnancies, 1940–45	237	—	—	—
All ages (11 years)	—	37	36	36

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
TOXÆMIA, PUERPERAL (148)				
Deaths :				
Age and civil condition, 1940–45 ..	235	—	—	—
Age, civil condition, and outcome of pregnancy, yearly, 1940–45	241	—	—	—
Ages : Civilians	—	135	134	137, 138, 137
All ages (11 years)	—	23	22	22
Month of Occurrence	—	164	164	*168*, 167
Death Rates :				
Ages, related to maternities, 1940–45 ..	237	—	—	—
All ages (11 years)	—	37	36	36
TUBERCULOSIS (ALL FORMS) (13–22)	107			
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	143	*147*, 146
20–25 years (males), 1939, 1942, 1945	67	—	—	—
20–35, 35–50 years (females), 1939, 1945..	70	—	—	—
All ages by sex (11 years)	—	9	8	8
Children under 5 years	—	148	148	*152*, 151
Infants under 1 year (11 years) ..	—	51	50	50
Quarterly by sex, 1939–43	20	—	—	—
Quarterly (March) by sex, per cent. excess in 1940, 1941, over 1939 ..	20	—	—	—
Death Rates :				
Ages by sex : 50–55, 55–65 years, various triennia, 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia, 1931–45 ..	73	—	—	—
1927–29, 1932–34, 1937–39 rates, per cent. of previous periods ; 1940–42, 1943–45 rates, per cent. of 1937–39 ..	114	—	—	—
All ages by sex (11 years)	—	28	27	27
Areas : Civilians	—	45	44	44
Children 1–5 years, 1911–45	62	—	—	—
5–10, 10–15 years, by sex, 1936–45	64	—	—	—
Comparative mortality Index, by sex from 1931	113	—	—	—
10 years	—	40	39	39
Comparative Mortality Index, persons (from 1851)	—	44	43	43
Infants under 1 year (11 years) ..	47	52	51	51
by regions, etc., with per cent. of England and Wales, 1936–45	52	—	—	—
by sex and legitimacy, 1940–45	50	—	—	—
by region and age	—	54	53	53

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
TUBERCULOSIS OF BONES AND JOINTS (excluding Vertebral Column) (17)				
Deaths :				
Ages by sex : Civilians	—	113	112	112
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156,* 155
Death Rates :				
All ages by sex (11 years)	—	28	27	27
TUBERCULOSIS, DISSEMINATED (22)				
Deaths :				
Ages by sex : Civilians	—	113	112	112
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	10	9	9
Month of Occurrence and sex	—	153	153	*157,* 156
Death Rates :				
All ages by sex (11 years)	—	28	27	27
TUBERCULOSIS OF GENITO-URINARY SYSTEM (20)				
Deaths :				
Ages by sex : Civilians	—	113	112	112
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156,* 155
Death Rates :				
All ages by sex (11 years)	—	28	27	27
TUBERCULOSIS OF INTESTINES AND PERITONEUM (15)				
Deaths :				
Ages by sex : Civilians	—	113	112	112
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	9	8	8
Children under 5 years	—	148	148	*152,* 151
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	152	152	*156,* 155
Death Rates :				
All ages by sex (11 years)	—	28	27	27
Children 1–5 years, 1936–45	63	—	—	—
Comparative Mortality Index by sex from 1931	113	—	—	—
10 years	—	—	39	39
Infants under 1 year (11 years) ..	—	52	51	51
TUBERCULOSIS OF LYMPHATIC SYSTEM (19)				
Deaths :				
Ages by sex : Civilians	—	113	112	112
Non-civilians	—	144	143	*147,* 146
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156,* 155

	Text Volume	Part I for years 1940, 1941	1942	1943, 1944, 1945
TUBERCULOSIS OF MENINGES AND CENTRAL NERVOUS SYSTEM (14)	111			
Deaths :				
Ages by sex : Civilians	—	112	111	*112*, 111
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	9	8	8
Children under 5 years	—	148	148	*152*, 151
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	152	152	*156*, 155
Death Rates :				
Ages by sex : 1931–45	112	—	—	—
per cent. of 1938–39, in various periods ..	112	—	—	—
All ages by sex (11 years)	—	28	27	27
Children 1–5 years, 1911–45 ..	62	—	—	—
	63	—	—	—
Comparative Mortality Index by sex from 1931	113	—	—	—
10 years	—	—	39	39
Infants under 1 year (11 years) ..	—	52	51	51
TUBERCULOSIS, NON-RESPIRATORY (14–22)	112			
Deaths :				
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages by sex : 1931–45	112	—	—	—
per cent. of 1938–39, in various periods ..	113	—	—	—
Proportionate mortality at certain ages, by region, etc., yearly 1940–45 ..	120	—	—	—
Proportionate mortality at certain ages, in County Boroughs, 1940–42, 1943–45	121	—	—	—
TUBERCULOSIS OF THE RESPIRATORY SYSTEM (13)				
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	9	8	8
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	152	152	*156*, 155
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
Ages by sex : 1931–45	108	—	—	—
0–15, 15–45 years, per cent. of 1938–39, in various periods ..	109	—	—	—
15–45 years (females), 1940–45, per cent. of national rate, by regions	115	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates—*contd.*				
45–65 years (males), 1940–45 rates, per cent. of national rate, by regions	117	—	—	—
under 65 years, 1931–35, 1945 rates, per cent. of 1938 ; equivalent average rates, 1931–45 ..	111	—	—	—
45–75+ years, per cent. of 1938–39, in various periods	110	—	—	—
15–75+ years, males per cent. of females, 1931–45	110	—	—	—
All ages by sex (11 years)	—	28	27	27
Areas : Civilians	—	45	44	44
Comparative Mortality Index, by sex from 1931	113	—	—	—
10 years	—	—	39	39
Comparative Mortality Index, persons (from 1851)	—	44	43	43
Proportionate mortality at certain ages, per cent. of 1940–45 rates	114	—	—	—
Proportionate mortality at certain ages, by regions, etc., yearly 1940–45 ..	116	—	—	—
Proportionate mortality at certain ages, in County Boroughs, 1940–42, 1943–45	118	—	—	—
Standardized on Great Britain population : males, females, persons, 1941–45	—	— —	—	—, —, 324
TUBERCULOSIS OF SKIN AND SUBCUTANEOUS CELLULAR TISSUE (18)				
Deaths :				
Ages by sex : Civilians	—	113	112	112
Non-civilians	—	—	—	150, —, —
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156*, 155
TUBERCULOSIS OF VERTEBRÆ AND BONES (16 and 17a)				
Death Rates :				
Comparative Mortality Index (from 1931)	113	—	—	—
TUBERCULOSIS OF VERTEBRAL COLUMN (16)				
Deaths :				
Ages by sex : Civilians	—	113	112	112
Non-civilians	—	—, 144	143	*147*, 146
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156*, 155
Death Rates :				
All ages by sex (11 years)	—	28	27	27

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
TUMOURS, NON-MALIGNANT (56)	182			
Deaths :				
Ages by sex : Civilians	—	118	117	118
All ages by sex (11 years)	—	13	12	12
Month of Occurrence and sex	—	156	156	*160*, 159
Death Rates :				
All ages by sex (11 years)	—	30	29	29
TUMOUR (non-malignant) OF BRAIN AND OTHER PARTS OF NERVOUS SYSTEM (56d)	181			
Deaths :				
Ages by sex : Civilians	—	118	117	118, 119, 118
Non-civilians	—	144	143	*147*, 146
All ages by sex (11 years)	—	13	12	12
,, ,, ,, ,, 1936–45	181	—	—	—
Month of Occurrence and sex	—	156	156	*160*, 159
Death Rates :				
All ages by sex (11 years)	—	30	29	29
TUMOUR (non-malignant) OF GENITAL ORGANS, FEMALE (56a, b, c)	182			
Deaths :				
Month of Occurrence	—	156	156	*160*, 159
Death Rates :				
All ages (11 years)	—	30	29	29
TUMOUR (non-malignant) OF OVARIES (56a)	182			
Deaths :				
Ages : Civilians	—	118	117	118
Non-civilians	—	—	146	150, —, —
All ages (11 years)	—	13	12	12
TUMOUR (non-malignant) OF UTERUS (56b)	182			
Deaths :				
Ages : Civilians	—	118	117	118
Non-civilians	—	—	—	—, 150, —
All ages (11 years)	—	13	12	12
TUMOURS OF UNDETERMINED NATURE (57)				
Deaths :				
Ages by sex : Civilians	—	119	118	*119*, 118
All ages by sex (11 years)	—	13	12	12
Month of Occurrence and sex ..	—	156	156	*160*, 159
Death Rates :				
All ages by sex (11 years)	—	31	30	30
TUMOUR (non-malignant) OTHER FEMALE GENITAL ORGANS (56c)	182			
Deaths :				
Ages : Civilians	—	118	117	118
All ages (11 years)	—	13	12	12

	Text Volume	Part I for years			
		1940, 1941	1942	1943, 1944, 1945	
TUMOURS OF UNDETERMINED NATURE, BRAIN, ETC. (57d)					
Deaths :					
Ages by sex : Civilians	—	119	118	*119*,	118
Non-civilians	—	144	143	*147*,	146
All ages by sex (11 years)	—	13	12	12	
,, ,, ,, ,, 1936–45	181	—	—	—	
Month of Occurrence and sex	—	156	156	*160*,	159
Death Rates :					
All ages by sex (11 years)	—	31	30	30	
TUMOUR OF UNDETERMINED NATURE OF OVARIES (57a)	182				
Deaths :					
Ages : Civilians	—	119	118	*119*,	118
All ages (11 years)	—	13	12	12	
TUMOUR OF UNDETERMINED NATURE OF UTERUS (57b)	182				
Deaths :					
Ages : Civilians	—	119	118	*119*,	118
All ages (11 years)	—	13	12	12	
TUMOURS OF UNDETERMINED NATURE, OTHER FEMALE GENITAL ORGANS (57c)	182				
Deaths :					
Ages : Civilians	—	119	118	—, 119,	118
All ages (11 years)	—	13	12	12	
TYPHOID AND PARATYPHOID FEVER (1 and 2)	87				
Deaths :					
Ages by sex : Non-civilians	—	147	147	*151*,	150
Area, age and sex	—	169	169	173	
Death Rates :					
All ages by sex (11 years)	—	28	27	27	
Areas : Civilians	—	45	44	44	
Comparative Mortality Index, by sex (10 years)	—	—	39	39	
Comparative Mortality Index, Persons (from 1871)	—	44	43	43	
Standardized on Great Britain population: males, females, persons, 1941–45	—	—	—	—, —,	324
TYPHOID FEVER (1)	87				
Deaths :					
Ages by sex : Civilians	—	112	111	111	
Non-civilians	—	144	143	*147*,	146
All ages by sex (11 years)	—	9	8	8	
Month of Occurrence and sex	—	152	152	*156*,	155

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	86	282	281	285, *286*
ratios of corrected to original notifications, by area, 1944–45	86	—	—	—
Rates : prevalence, by area (from 1940)	—	279	278	282
prevalence and fatality, by area, 1940–45	88	—	—	—
prevalence and fatality, by sex and age, 1944, 1945 ..	89	—	—	—
Seasonal incidence	—	281	280	284, *285*
TYPHUS AND TYPHUS-LIKE DISEASES (Rickettsioses) (39)				
Deaths :				
Ages by sex : Civilians	—	—	115	*115*, —
Non-civilians	—	—	—	—, —, 146
All ages by sex (11 years)	—	—, 11	10	10
Month of Occurrence and sex	—	—, 154	154	*158*, —
Notifications :				
Numbers : civilians, non-civilians and Port Health Districts (11 years)	—	282	281	285, *286*
ULCER OF DUODENUM (117b)	222			
Deaths :				
Ages by sex : Civilians	—	130	129	*131*, 130
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	162	162	*166*, 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
Comparative Mortality Index, by sex (10 years)	—	—	41	41
Comparative Mortality Index, triennia, 1931–45	224	—	—	—
ULCER OF STOMACH (117a)	222			
Deaths :				
Ages by sex : Civilians	—	130	129	*131*, 130
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	20	19	19
Month of Occurrence and sex	—	162	162	*166*, 165
Death Rates :				
All ages by sex (11 years)	—	35	34	34
Comparative Mortality Index, by sex (10 years)	—	—	41	41
Comparative Mortality Index, triennia, 1931–45	224	—	—	—

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
ULCER OF STOMACH OR DUODENUM (117)	222			
Deaths :				
Ages by sex : Civilians	—	130	129	*131,* 130
Non-civilians	—	147	147	*151,* 150
All ages by sex (11 years)	—	20	19	19
Area, age and sex	—	169	169	173
Month of Occurrence and sex	—	162	162	*166,* 165
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Death Rates :				
Ages by sex : sex ratios, 1931–33, 1943–45	223	—	—	—
All ages by sex (11 years)	—	35	34	34
UNDULANT FEVER (Brucellosis) (5)				
Deaths :				
Ages by sex : Civilians	—	112	111	111
Non-civilians	—	—	—	147, —, —
All ages by sex (11 years)	—	9	8	8
Month of Occurrence and sex	—	152	152	*156,* 155
UNSTATED OR ILL-DEFINED CAUSES OF DEATH (200)	267			
Deaths :				
Ages by sex : Civilians	—	143	142	*146,* 145
Non-civilians	—	146	145	*149,* 148
All ages by sex (11 years)	—	27	26	26
Month of Occurrence and sex	—	168	168	*172,* 171
Death Rates :				
All ages by sex (11 years)	—	39	38	38
URINARY AND GENITAL SYSTEMS, DISEASES OF (130–139)				
Deaths :				
Ages by sex : Civilians	—	132	131	*133,* 132
25–35, 35–50 years (females), 1939, 1945 ..	70	—	—	—
All ages by sex (11 years)	—	21	20	20
Month of Occurrence and sex	—	163	163	*167,* 166
Death Rates :				
Ages by sex : 50–55, 55–65 years, various triennia, 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia, 1931–45 ..	73	—	—	—
All ages by sex (11 years)	—	36	35	35
UTERUS, DISEASES OF (139b)				
Deaths :				
Ages : Civilians	—	133	132	*135,* 134
Non-civilians	—	—	146	—, 150, —
All ages (11 years)	—	22	21	21
Month of Occurrence	—	164	164	*168,* 167

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
Death Rates :				
All ages (11 years)	—	37	36	36
VACCINIA, AND OTHER SEQUELÆ OF VACCINATION AGAINST SMALLPOX (195a)	264			
Deaths :				
Ages by sex : Civilians, total	—	276	275	279
Non-civilians	—	146	145	*149*, —
All ages by sex (11 years)	—	27	26	26
Children under 5 years	—	151	151	*155*, 154
Month of Occurrence and sex	—	168	168	*172*, 171
VALVE, MITRAL, DISEASE OF (92b : 1)				
Deaths :				
Ages by sex : Civilians	—	124	123	*126*, 125
Non-civilians	—	145	144	*148*, 147
Civilians and non-civilians, 1940–42, 1943–45	184	—	—	—
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	159	159	*163*, 162
Death Rates :				
All ages by sex (11 years)	—	33	32	32
VALVES AND ENDOCARDIUM, CHRONIC AFFECTIONS OF (92)				
Deaths :				
Ages by sex : Civilians	—	124	123	125, 126, 125
All ages by sex (11 years)	—	17	16	16
Area and sex	—	261	260	264
Month of Occurrence and sex	—	159	159	*163*, 162
Pregnancy, associated with, 1937–45 ..	238	—	—	—
Death Rates :				
All ages by sex (11 years)	—	33	32	32
Comparative Mortality Index by sex (10 years)	—	—	40	40
Standardized on Great Britain population : males, females, persons, 1941–45	—	—	—	—, —, 325
VALVULAR DISEASE, AORTIC (without Mitral Disease) (92a)				
Deaths :				
Ages by sex : Civilians	—	124	123	125, 126, 125
Non-civilians	—	145	144	*148*, 147
Total, 1939, 1942, 1945 ..	67	—	—	—
All ages by sex (11 years)	—	17	16	16
Month of Occurrence and sex	—	159	159	*163*, 162
Death Rates :				
All ages by sex (11 years)	—	33	32	32

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
VARICELLA (38e)				
Deaths :				
Ages by sex : Civilians	—	115	114	115
All ages by sex (11 years)	—	11	10	10
Children under 5 years	—	148	148	*152*, 151
Month of Occurrence and sex	—	154	154	*158*, 157
VEINS, DISEASES OF THE (100)				
Deaths :				
Ages by sex : Civilians	—	126	125	*127*, 126
Non-civilians	—	145	144	*148*, 147
All ages by sex (11 years)	—	18	17	17
Month of Occurrence and sex	—	160	160	*164*, 163
Death Rates :				
All ages by sex (11 years)	—	34	33	33
Comparative Mortality Index, by sex (10 years)	—	—	40	41
VENEREAL DISEASE (other than Syphilis and Gonorrhœa) (44a)				
Deaths :				
Ages by sex : Civilians	—	116	115	*116*, 115
All ages by sex (11 years)	—	12	11	11
VIOLENCE, DEATHS FROM (163–198)	243			
Deaths :				
Ages by sex : Civilians	—	139	138	141
Non-civilians	—	—, 146	145	*149*, 148
20–25 years (males), 1939, 1942, 1945	67	—	—	—
25–35, 35–50 years, females, 1939, 1945 ..	70	—	—	—
All ages by sex	—	25	24	24
Month of Occurrence and sex	—	166	166	*170*, 169
Pregnancy, associated with, 1937–45 ..	239	—	—	—
Quarterly, by sex, 1939–43	20	—	—	—
Quarterly (March), by sex, per cent. excess in 1940, 1941 over 1939 ..	20	—	—	—
Death Rates :				
Ages by sex : 5–15 years, 1936–45 ..	64	—	—	—
50–55, 55–65 years, various triennia 1931–45 ..	72	—	—	—
65–70, 70+ years, various triennia 1931–45 ..	73	—	—	—
50 years and over, 1943–45, per cent. of 1931–33	75	—	—	—
All ages by sex (11 years)	—	38	37	37
Comparative Mortality Index by sex (10 years)	—	—	42	42
Infants under 1 year, 1936–45	47	—	—	—
by sex and legitimacy, 1940–42, 1943–45	50	—	—	—
by regions, with per cent. of England and Wales, 1936–45	52	—	—	—

	Text Volume	Part I for years			
		1940, 1941	1942	1943, 1944, 1945	
VISION, ORGANS OF, DISEASES OF (88)					
Deaths :					
Ages by sex : Civilians	—	123	122	*125,*	124
Non-civilians	—	145, —	—	*148,*	147
All ages by sex (11 years)	—	17	16	16	
Month of Occurrence and sex	—	158	158	*162,*	161
Pregnancy, associated with, 1937–45 ..	238	—	—	—	
VITAMIN, DEFICIENCY DISEASES (67–71)					
Deaths :					
Ages by sex : Civilians	—	120	119	*121,*	120
All ages by sex (11 years)	—	15	14	14	
Month of Occurrence and sex	—	157	157	*161,*	160
WAR OPERATIONS (Civilians) (197)	17				
Deaths :					
Ages by sex	—	143	142	*146,*	145
Ages 20–25 years (males) 1939, 1942, 1945	67	—	—	—	
All ages by sex (11 years)	—	27	26	26	
All ages, in each administrative area ..	—	56	55	55	
Area, age and sex	—	169	169	173	
Month of Occurrence and sex	—	168	168	*172,*	171
Death Rates :					
Ages by sex : 50–55, 55–65 years, various triennia 1931–45 ..	72	—	—	—	
65–70, 70+ years, various triennia 1931–45 ..	73	—	—	—	
All ages by sex (11 years)	—	39	38	38	
Children 1–5 years, 1936–45	63	—	—	—	
,, 5–15 years, by sex, 1936–45 ..	64	—	—	—	
Infants under 1 year, 1936–45 ..	47	—	—	—	
by sex and legitimacy, 1940–42, 1943–45	50	—	—	—	
Quarterly, each year, 1939–45	19	—	—	—	
WAR OPERATIONS (Non-civilians) (196)					
Deaths :					
Ages by sex	—	146	145	*149,*	148
Ages 20–25 years (males), 1939, 1942, 1945	67	—	—	—	
WEIL'S DISEASE (Spirochætosis Ictero-Hæmorrhagica) (32a)	124				
Deaths :					
Ages by sex : Civilians	—	114	113	*114,*	113
Non-civilians	—	144	143	*147,*	146
1931–45	125	—	—	—	
All ages by sex (11 years)	—	11	10	10	
Month of Occurrence and sex	—	153	153	*157,*	156

	Text Volume	Part I for years		
		1940, 1941	1942	1943, 1944, 1945
WHOOPING COUGH (9)	95			
Deaths :				
Ages by sex : Civilians	—	112	111	111
All ages by sex (11 years)	—	9	8	8
Area, age and sex	—	169	169	173
Children under 5 years	—	148	148	*152*, 151
Infants under 1 year (11 years) ..	—	51	50	50
Month of Occurrence and sex	—	152	152	*156*, 155
Death Rates :				
All ages by sex (11 years)	—	28	27	27
Areas : Civilians	—	45	44	44
Children 1–5 years, 1911–45	62	—	—	—
Children under 15 years (from 1851) ..	—	44	43	43
Comparative Mortality Index by sex (10 years)	—	—	39	39
Infants under 1 year (11 years) ..	47	52	51	51
by region and age	—	54	53	53
by region, with per cent. of England and Wales rate, 1936–45	52	—	—	—
by sex and legitimacy, 1940–45	50	—	—	—
Notifications :				
Numbers : age and sex	—	—	—	—, 324, 287
area	—	283	282	286, *288*
civilians, non-civilians, Port Health Districts (11 years)	—	282	281	285, *286*
Rates : prevalence, by area, (from 1940)	—	280	279	283
prevalence, by region, etc., at ages 0–5, 5–15, 1944, 1945 ..	97	—	—	—
prevalence and fatality, by age and sex, 1944, 1945	97	—	—	—
fatality by region, etc., 1940–45	97	—	—	—
Seasonal incidence	—	281	280	284, *285*
YELLOW FEVER (38a)				
No cases reported.				

(86504) Wt. 3700/1629 7/49 Hw. PRINTED IN GREAT BRITAIN

MONTHLY DIGEST OF STATISTICS

The Digest, which is prepared by the Central Statistical Office in collaboration with the Statistics Divisions of Government Departments, provides industrialists and business executives with invaluable statistics relating to the economic situation in the United Kingdom. Where available pre-war figures are given as well as those for the war years, which were not then published for security reasons. Monthly figures are given for the last two years.

Statistical information is at present arranged under the following headings and the scope is revised from time to time to include new statistical information as it becomes available.

POPULATION
EMPLOYMENT
FUEL AND POWER
RAW MATERIALS
MANUFACTURED GOODS
BUILDING
AGRICULTURE AND FOOD
EXTERNAL TRADE
MERCHANT SHIPPING
INLAND TRANSPORT
FINANCE
WAGES AND PRICES

Price 2*s.* 6*d.* per copy
[2*s.* 9*d.* post free]

DEFINITIONS of Items and Units employed in the DIGEST
6*d.* [7*d.* post free]

Annual Subscription £1 12*s.* 6*d.*, *post free* (*including a copy of the Definitions*)

OBTAINABLE FROM

H.M. STATIONERY OFFICE

at the addresses on page 4 of the cover or through any bookseller

Crown Copyright Reserved

LONDON
PRINTED AND PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE
To be purchased directly from H.M. Stationery Office at the following addresses:
York House, Kingsway, London, W.C.2; 13a Castle Street, Edinburgh, 2;
39 King Street, Manchester, 2; 2 Edmund Street, Birmingham, 3;
1 St. Andrew's Crescent, Cardiff; Tower Lane, Bristol, 1;
80 Chichester Street, Belfast
OR THROUGH ANY BOOKSELLER
1949
Price 6s. 6d. net

S.O. Code No. 70-141-3-45*